

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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Licensee: Duke Power Company

Facility: McGuire Generating Station, Units 1 & 2

Location: 12700 Hagers Ferry Rd.
Huntersville, NC 28078

Dates: September 8 - October 19, 1996

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ENCLOSURE 2

EXECUTIVE SUMMARY

McGuire Generating Station, Units 1 & 2
NRC Inspection Report 50-369/96-08, 50-370/96-08

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 6-week period of resident inspection.

Operations

- Engineered Safety Features (ESF) walkdowns of the Unit 2 Component Cooling Water System were completed during the inspection period. Some minor material condition items were noted. No operational or design concerns were identified (paragraph 02.1).
- Inspector review of operator actions taken in response to a Unit 2 power range channel power supply failure concluded that actions taken to meet the LCO requirements could have been more timely. In addition, an Unresolved Item was identified to further evaluate the use of abnormal operating procedures and to clarify actions to be taken upon recognition of procedure entry conditions (paragraph 02.2)
- The inspectors concluded that operations process and re-focus on the identification and resolution of operator workarounds was good (paragraph 04.1).
- The inspectors concluded that a recent licensee self assessment of operator training was thorough and illustrated a good questioning attitude. For example, weaknesses were identified for not ensuring operators received required immediate training (paragraph 05.1).
- Licensed operator requalification (retraining) program was reviewed and determined to have been satisfactorily conducted. Written examinations were acceptable; however, some areas were identified for improvement such as using Crew Critical Tasks (CCTs) as evaluative tools for determination of crew failures. The inspector considered that Operations Management participation during the examinations was considered to be excellent. (paragraphs 05.2 to 05.6)
- The completion of job performance measures by the non-licensed operators (NLO) was considered a good training tool to improve overall NLO performance. (paragraph 05.7)
- The PORC involvement in the review process for a TS change was determined to be good. The PORC exhibited a good questioning attitude and adequately addressed potential impacts of the change. (paragraph 07.1)

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Maintenance

- Good management involvement was evident in the planning and execution of the on-line leak repair of pressurizer liquid space sample isolation valve, 1NC45. (paragraph M2.1)
- NRC review of a Unit 1 annulus ventilation system testing procedure identified that the surveillance test procedure did not ensure preheaters remained energized for at least 10 hours during surveillance testing. The issue was identified as a Violation of TS 6.8.1 regarding an inadequate procedure. Another example in which procedures did not fully implement TS requirements was also identified. (paragraphs M3.1 and M3.2).
- The licensee identified and promptly corrected non-conservative RCS loop flow trip setpoints on Unit 1. An Unresolved Item was identified relating to this issue in order to further establish safety significance of the problem and adequacy of licensee's TS surveillance testing in this area. (paragraph M3.2)
- The inspectors continued to note indications of an adverse trend related to planning and scheduling of retest activities. The inspectors concluded that more management attention was required to address this repetitive problem (paragraph M4.1).

Engineering

- Inspectors identified a Design Basis Documentation inconsistency in describing instruments used to monitor room temperature (paragraph E2.1).
- Inspector observations prompted a reevaluation of procedures for disseminating engineering guidance to ensure proper operations under special conditions. (paragraph E4.1)
- Engineering process (Action Register) for keeping management and plant personnel updated on plant high priority problems on a periodic basis was considered a strength. (paragraph E4.2)

Plant Support

- An emergency preparedness manning drill was conducted September 22, 1996. The results indicated that all of the on-site required positions were manned within the required time frames. Manning of the EOF in downtown Charlotte was also verified to be acceptable and not adversely impacted by the coincident football stadium event. Some desired positions were not manned. (paragraph P2.1)

- Corrective actions to resolve possible degradation of control room habitability caused by smoke or other exterior contaminant intrusion was good. The inspectors identified that the FSAR description of the system was not accurate. An additional example of URI 369.370/96-04-02 was identified for the FSAR discrepancy list (paragraph F3.1).

Report Details

Summary of Plant Status

Both units operated at 100 percent power throughout the inspection period.

Review of UFSAR Commitments

A recent discovery by a licensee of operating their facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need for a special focus review that compares plant practices, procedures, and/or parameters to the UFSAR description. While performing inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that were related to the areas inspected. The inspectors verified that the UFSAR wording was consistent with the observed plant practices, procedures, and/or parameters. As addressed in section M8.1 a discrepancy was identified between the plant configuration and the UFSAR for Post Accident Monitoring installation. As discussed in section F3.1 a discrepancy was identified in the UFSAR for control room ventilation operation to maintain control room habitability.

I. Operations

01 Conduct of Operations

01.1 General Comments (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent reviews of ongoing plant operations. In general, the conduct of operations was professional and safety-conscious; specific events and noteworthy observations are detailed in the sections below.

02 Operational Status of Facilities and Equipment (71707)

02.1 Engineered Safety Feature System Walkdowns

a. Inspection Scope (71707)

The inspectors conducted detailed walkdowns of accessible portions of the Component Cooling Water System. Visual inspections of system components were performed to identify any conditions that might degrade system operation. System drawing and UFSAR reviews were conducted prior to completion of the actual system walkdown inspections.

b. Observations and Findings

The inspectors verified selected portions of system valve lineups for the plant operating condition. Main Control Board position indications were also used to ensure system flowpaths were in accordance with normal procedural lineups and UFSAR design. Emphasis was placed on essential equipment necessary to perform safety functions. The inspectors visually inspected pump lubrication levels and verified cooling water

supply system alignments. No abnormal valves lineups were noted. Licensee identified maintenance deficiencies were labeled with appropriate maintenance request tags. The inspectors determined that none of the labeled items were significant enough to require immediate corrective action and the inspectors also noted that none of the maintenance request labels were inordinately overdue.

The inspectors reviewed performance test data for the component cooling water system pumps and noted no significant degradation. No system compensatory measures were in use. However, instructions were provided to operators to perform periodic flushes of the system heat exchangers due to increased fouling of the tubes caused by the Fall season lake turnover. The inspectors reviewed Problem Investigation Process reports to confirm that corrective actions for identified deficiencies have been timely and appropriate. Main control board valve position and power source verifications were also performed. Some minor housekeeping and material condition deficiencies were identified such as a filled leak catch container above one of the KC pump motors, several valve gearbox leaks, un-sealed flood berm, and missing KC motor housing bolts. None of the items were determined to immediately impact system operability. The items were communicated to the licensee for correction. Prior to the end of the report period, the items were entered into the licensee Work Management System or immediately corrected by minor maintenance personnel.

c. Conclusions

No significant discrepancies were identified requiring immediate attention. The licensee promptly corrected the inspector identified deficiencies. The inspectors concluded that the system was operated as designed and overall system performance and material condition was good.

02.2 Power Range 2N1S41 Power Supply Failure

a. Inspection Scope (71707)

On September 30, 1996, The Unit 2 power range channel N1S41 was declared inoperable due to the failure of a -25 VDC low voltage power supply. The inspectors reviewed the licensee's actions associated with the failure.

b. Observations and Findings

The inspector reviewed log entries and noted that the control room operators received several power range detector Hi Voltage Failure annunciator alarms. According to control room personnel and logs, the annunciator reflashed every few minutes indicating a continuing problem with the power supply. IAE personnel reviewed data from a recorder that had been installed following an earlier bistable card failure and confirmed the failing power supply. After control room operators

consulted with IAE personnel, the channel was declared inoperable. Control room personnel reviewed Abnormal Procedure AP-16, Malfunction of Nuclear Instrumentation, Case III. The control room personnel concluded that the AP did not have to be entered at that time since it appeared to the control room operators that the instrumentation may be degraded, but power range meters were not erratic. Immediate repair of the power range channel was hampered by problems with the replacement power supply and procedures. In addition, the current IAE procedure assumed that AP-16 had previously been implemented to allow the instrument to be repaired. Additional delays occurred due to the inability to locate the proper jumpers to simulate the proper load on the replacement power supply. Technical Specifications require that protection bistables be tripped within 6 hours. The inspector reviewed log entries and determined that, despite delays, the bistables were tripped within the required time frame.

Technical Specification LCO T.S. 3.3.1, Table 3.3-1, Action 2, required that thermal power be reduced within 4 hours to less than 75% rated thermal power and the high neutron flux trip setpoints be reduced to less than 85% or that at least every 12 hours the Quadrant Power Tilt Ratio (QPTR) be verified by completing either a full core flux map or two sets of four symmetric thimble locations per Technical Specification 4.2.4.2. The option to perform the QPTR was not chosen when the power range channel was initially declared inoperable, significantly delaying the notification of reactor group personnel to perform the required flux map. Further delays were encountered by reactor group personnel due to software problems complicating the completion of the required flux map. Although both the flux map and repairs to power range instrumentation were completed within the TS allowed outage time, the extensive delays almost required a unit shutdown.

A review of control room logs indicated that operators received several Power Range Hi Voltage Failure alarms. Through interviews with control room operators, the inspectors were informed that the appropriate annunciator response procedure was referenced, which directed them to refer to abnormal procedure, AP-16, Malfunction of Nuclear Instrumentation, Case III. According to control room logs the operators reviewed, but did not enter the procedure.

c. Conclusions

The inspector concluded that operator actions, in response to declaring Unit 2 Power Range Channel I NIS-41 inoperable, could have been more timely. Specifically, the control room operators initially did not choose the TS option of performing a QPTR surveillance contributing to delays that almost caused the unit to be in a required shutdown. An Unresolved Item was identified to further evaluate the control room operators use of abnormal procedures during the event (URI 369, 370/96-08-01, Operator Abnormal Procedure Usage).

04 Operator Knowledge and Performance

04.1 Workaround Identification and Resolution Process (71707, 40500)

Observations and Findings

During the inspection period, the inspector reviewed the licensee's most recent implementation of processes used to identify and resolve operator workarounds. The site first began use of a formalized operator workaround program in 1994 as part of the top equipment problem resolution (TEPR) process. Historically, the TEPR consisted of two lists, one identified major equipment problems and the other workaround problems. Recently, operations management determined that additional focus and enhancements could be made to better identify and resolve operator workarounds and that a consistent program should be implemented at all of the Duke Power sites.

The revised process is defined in Nuclear System Directive (NSD) 506. The new process required a higher level of involvement by all operators in identification and awareness of workarounds. Specific attributes of the process included: more efficient method to document potential operator workarounds by plant personnel, evaluation of each incoming work order for workaround potential, and OSM and control room tracking notebooks to monitor and track all identified items. The process defined performance goals for the number of deficiencies requiring operator actions. The process was also expanded to include evaluations of the aggregate impact of workarounds. The aggregate impact was being evaluated by asking the initiator to define how much time was required for a compensatory action to resolve or "work around" the deficiency. By adding total time requirements, aggregate impact could be evaluated and a priority for resolution established for each individual workaround.

The inspectors monitored the licensee's use of the new operator workaround process for several months and concluded that operations management and personnel had placed increased emphasis on identifying, tracking, and resolving operator workaround issues. The new process appeared to allow for easier workaround identification and monitoring of existing problems by Operations management.

Conclusions

The inspectors concluded that Operations management and staff implementation of a revised workaround identification and monitoring process was good. The inspectors also concluded that plant personnel were actively using the process to lower the existing workaround threshold and continue the elimination of identified workarounds. However, based on the number of issues being identified as workarounds, the inspectors concluded that continued management emphasis on workaround identification and resolution was needed.

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05 Operator Training and Qualification

05.1 Operation Immediate Training Program Deficiencies

a. Inspection Scope (40500)

The licensee conducted a comprehensive self assessment of station functional areas including plant operations. The self assessment included a review of operations training practices at the station. The inspectors reviewed the assessment.

b. Observations and Findings

The inspectors reviewed Operations management procedures and noted that immediate training should be used when it is necessary to expeditiously inform licensed shift personnel of important and often safety related changes in station configuration and/or plant operating conditions or could result in operating in an unsafe condition. Examples of immediate training topics covered included changes to abnormal and emergency operating procedures, guidance to shutdown the reactor due to equipment concerns, and plant modifications to safety related equipment. The inspectors reviewed current station practices and noted that there was no established method to ensure that all licensed personnel had received required immediate training. The current operations procedure requires that the Control Room SRO ensure control room personnel are trained on the Immediate Training prior to or shortly after assuming licensed duties. The inspectors verified that control room operators were knowledgeable concerning recently issued immediate training. The self-assessment also identified that in some cases the immediate training was not followed by required reading packages as necessary. Some examples where reading packages were required included changes to reactor coolant system leakage calculation and vital inverter modifications. The current operations procedures requires that the immediate training should remain with the current Shift Supervisor turnover package until its expiration date; typically three weeks from the date of issuance such that a required reading package can be developed and distributed.

The inspectors reviewed recently issued immediate training and verified that control room operators had received this training. The inspectors noted that the licensee had begun to implement some corrective action at the end of the inspection period.

c. Conclusions

The inspectors concluded that a recent licensee self assessment of operator training was thorough and illustrated a good questioning attitude. For example, significant weaknesses were identified for not ensuring operators received required immediate training.

05.2 Operator Regualification Program (71001)

a. Inspection Scope (71001):

During the period of September 17-20, 1996, the inspector used Inspection Procedure 71001 to review and evaluate the licensee's operator regualification program in the area of written examination quality.

b. Observations and Findings

The inspector reviewed reactor operator and senior reactor operator written Part A (Static Simulator) and Part B (Open book) examinations administered during the weeks of September 9 and 16, 1996. The inspector noted the following concerning the Part A portion of the examination. One question contained a series of True and False statements concerning different topic areas. One question concerning rod position did not discriminate between a competent and non-competent operator. One question linked to the static simulator did not require the simulator for review to answer the question. The static examinations reviewed were comprised of 21 questions and 23 questions respectively.

The inspector noted the following concerning the Part B portion of the examination. Four questions were written as direct look-up questions. Fifty percent of the Part B examination was repeated from the previous week's examination. The overall repeatability percentages met the facilities requirements. Both open reference examination's reviewed were comprised of 18 questions.

The inspector reviewed OTP-4.2, "Examinations", Rev. 0, 5/21/96 and determined that open reference written examinations are required to be developed in accordance with NUREG-1021, Operator Licensing Examiner Standards, ES-602, Regualification Written Examinations.

c. Conclusions

The inspector concluded that the written examination, while acceptable, contained areas that needed improvement. Examiner Standard Standards, NUREG 1021, ES-602, Attachment 2, "Guidelines for the Development and Review of Open-Reference Examinations," and NUREG/BR-0122, "Examiners' Handbook for Developing Operator Licensing Written Examinations," provides guidance for writing open reference questions. The review of the examinations revealed that some of the questions on the examinations deviated from that guidance.

05.3 Simulator Scenario Evaluation

a. Inspection Scope (71001):

The inspector used Inspection Procedure 71001 to review and evaluate the licensee's operator requalification program in the area of simulator scenario evaluation.

b. Observations and Findings:

The inspector reviewed dynamic simulator scenarios and noted that Crew Critical Tasks (CCTs) and crew competencies were used to evaluate crew performance. Individual performance was evaluated using individual competencies. It should be noted that CCTs are not required by regulation to evaluate crew performance. The inspector determined that many CCTs were not based on specific plant parameters, but based on generic Westinghouse critical tasks, coupled to procedural anchors.

The inspector observed the administration of simulator scenarios by the licensee's evaluators. The final facility evaluators' grading/evaluation was consistent with the inspector's. The inspector noted that follow-up questions were being used to gather additional information following scenario administration. However, additional questions could have been used to determine additional deficient areas, but were not.

The inspector reviewed documentation for two individual failures with an associated crew failure. The inspector noted that the licensee failed the crew and individuals using crew and individual competencies. The crew did not fail due to failure of a CCT. The inspector also determined that the crew received only one scenario of the two scenario set because the crew failed the first scenario. The licensee decided further evaluation was not warranted. The inspector determined, by discussion with the Operations Training Manager, that the crew that failed would receive, as a retest, a scenario set comprised of two scenarios.

The inspector noted during the review of the two individual simulator failures and the crew failure that competency write-ups did not contain detailed documentation for areas that showed weaknesses (those areas that the operator or crew did not fail during examination administration). Competency areas with a value of a "2" were not described in the individual or crew write-ups. OTP 6-5, Licensed Requalification Program, requires that two or more unsatisfactory marks in one competency (a grade of "1") would constitute a failure. OTP-6-5 does not describe requirements for documenting weaknesses associated with competencies that resulted in a competency grade of a "2." The licensee did a good job describing competency grades of "1" in both the crew and individuals write-ups.

c. Conclusions

The inspector concluded that CCTs could be improved to encompass more objective performance measures that contain measurable performance indicators. Objective performance measures allows a common ground for evaluators to objectively evaluate operator performance. The inspector concluded that CCTs, as written, may fail to identify less than satisfactory performance.

The inspector concluded that improvements could be made in the area of follow-up questioning. With the use of additional questions, evaluators would be able to probe deeper into identified observed weaknesses which would enable the evaluator to pinpoint root causes in order to identify areas necessary for remediation as well as areas concerning generic plant deficiencies.

The inspector concluded that administration of one only scenario of a two scenario set, when the first scenario is failed, may not identify all the weak areas associated with that crew. Normally the second scenario requires operators to change positions, thus allowing additional evaluation and clarification of identified weaknesses as well as identification of additional problem areas.

The inspector concluded that documentation for individual and crew failures was accomplished in accordance with licensee procedures. Documenting competency ratings less than "3" could provide additional insight concerning crew and individual performance. If weaknesses are not documented then these weaknesses may not be tracked and fed back into the program as required by OTP 6-5.

05.4 Crew Communications and Operator Performance

a. Inspection Scope (71001)

The inspector used Inspection Procedure 71001 to review and evaluate the licensee's operator regualification program in the area of crew communications and operator performance.

b. Observations and Findings

The inspector observed two different crews during the annual simulator evaluations. The inspector observed that the crews, during page announcements, did not consistently provide comprehensive information to personnel outside of the control room. The inspector noted that plant announcements concerning major plant equipment (starting or stopping during plant evolutions and during emergency's) were not being performed one by the operators. McGuire Site Directive (MSD) 589.5, "McGuire

Communications Standard," does not have a requirement to do so, however, a safety hazard may be present to plant personnel in the immediate area of the equipment. MSD 589.5 requires that paging announcements should be used to announce emergencies.

The inspector observed when annunciators alarmed, the reactor operator verbalized the annunciator alarm to the crew. However, he did not receive repeat-backs or acknowledgement from either of the senior reactor operators. The operator who consistently acknowledged the annunciator was the other reactor operator. MSD 589.5, requires that following annunciator reporting only one other operator is required to acknowledge. The MSD does not delineate who in the crew is required to response to the reporting of the annunciator.

The inspector observed during procedural transitions between emergency procedures the Shift Operations Manager (OSM) and SRO (Procedure Reader) did not solicit "buy-in" from either of the reactor operators. In general, the transitions were done without input from those control board operators. OMP 4-3, "Use of Abnormal and Emergency Procedures," requires that tailgate sessions be conducted at appropriate transitions or pauses discussing plant status, and Emergency Plan classifications. While tailgate sessions were conducted, the senior reactor operators did not perform these on a consistent basis. When tailgate sessions were accomplished the senior operator did query the reactor operators for added information, while rarely concerning the correctness of the transition.

The inspector observed that proper alpha numeric language was not used at all times and that operators did not use the radio to send out operators during the evaluations.

c. Conclusions

The inspector concluded that communications in general were satisfactory, however, improvements could be made. Concerning the plant paging system and plant announcements, the inspector concluded more precise and succinct information could be provided to personnel outside the control room. In the area of announcing changes to major plant equipment, the inspector concluded that additional attention is necessary in this area. In the area of acknowledgement for verbalized annunciators, the inspector concluded that communications did not meet Operations Management's expectations in that neither of the senior operators acknowledged the initial message using proper three-way communications.

In the area of "buy-in" from the crew during procedural transitions, the inspector concluded that the participation of the entire crew was important during major procedural changes to ensure all areas have been

addressed prior to the transition. Senior Reactor Operators did not elicit information from reactor operators prior to procedural transitions which caused incomplete team participation.

05.5 Operations Management Practices

a. Inspection Scope (71001):

The inspector used Inspection Procedure 71001 to review and evaluate the licensee's operator requalification program in the area of Operations Management practices.

b. Observations and Findings:

The inspector observed for the second time in as many years an excellent and cooperative relationship between Operations, Operations Management, and the Training Department. The inspector observed the commitment that Operations Management has in participating in the annual requalification examinations.

c. Conclusions

The inspector concluded that Operations Management continued to demonstrate excellent support and participation in the annual requalification examinations. The inspector viewed this as a good practice.

05.6 Job Performance Measures

a. Inspection Scope (71001):

The inspector used Inspection Procedure 71001 to review and evaluate the licensee's operator requalification program in the area Job Performance Measures (JPM) evaluations.

b. Observations and Findings:

The inspector observed the administration of Job Performance Measures (JPMs) to eight (ROs and SROs) operators in the plant and on the simulator. The final facility grading was consistent with the inspectors. There were no JPM failures observed. The inspector observed the practice of providing the operator with immediate pass/fail results following the completion of the JPM. In general, administration of the JPMs was consistent, in that, evaluators would read the initial conditions of the JPM to the operators. There was one evaluator who provided a written copy of the initial conditions to the operators and stated if they had questions to ask them.

The inspector observed one JPM of a five JPMs set which consisted of one step, while another JPM had six steps where only two steps were actually

required to accomplish the JPM. The other JPMS in that set were more extensive than those described above.

c. Conclusions

The inspector concluded that the facility evaluators providing pass/fail results to the operators following completion of a JPM could cause the operator undue stress and may disrupt the examination process. The licensee revised this practice during the inspection and provided pass/fail information to the operators at the end of the week. The inspector also concluded that examinations that contain JPMS of one to two steps provide limited evaluative data. Care should be taken to ensure JPM sets are comprised of evaluative tools that are able to discern competent from non-competent operators.

05.7 Non-Licensed Operator (NLO) Training on Job Performance Measures

In addition to the above, the inspectors reviewed the completion of job performance measures by the non-licensed operators (NLO). The process included many of the attributes of the licensed operator JPM program and was actively being implemented by Operations management. The completion of job performance measures by the non-licensed operators (NLO) was considered a good training tool to improve overall NLO performance.

07 Quality Assurance in Operations (40500)

07.1 PORC Review of Primary to Secondary RCS Leakage Limit (40500)

a. Inspection Scope

Following identification of a primary to secondary reactor coolant system leak of approximately 12 gallons per day (gpd) in the Unit 1 B steam generator, engineering reviewed the current administrative requirements for steam generator leakage and determined that the 50 gpd administrative limit was overly restrictive and provided little or no additional protection against rapidly increasing leak rates or tube ruptures. As a result, a recommendation was presented to the Plant Operations Review Committee (PORC) for review. The inspector attended the PORC review meetings to assess the licensee's ability to evaluate and resolve issues. The McGuire TS safety limit for steam generator leakage is 500 gpd. Leakage in excess of 500 gpd requires a unit shutdown.

b. Observations and Findings

The PORC reviewed a 10 CFR 50.59 evaluation and supporting information to judge the significance of increasing the allowable primary to secondary leakage limit from the current 50 gpd administrative limit to a leakage limit of 100 gpd or step change leakage limit of 60 gpd/hour. The evaluation emphasized that the current 50 gpd leakage was well below

the industry recommended leakage limit of 150 gpd and provided little or no additional protection against a rapidly propagating tube failure. The increased leakage limit was designed to address the variety of potential degradation mechanisms that may occur. The higher total leakage limit would allow for degradation in the steam generators that was not structurally significant. The licensee also included an additional shutdown limit of 60 gpd/hour step change limit per generator for protection against rapid leakage increases indicative of a tube rupture. The evaluation also stressed the use of Nitrogen-16 monitors on each main steam line which has improved leakage detection and provided early warning indication of steam generator leakage.

The inspectors noted that the PORC exhibited a good questioning attitude and was adequately prepared to discuss the technical and nuclear safety aspects of the issue. The PORC reviewed the basis for the original leakage limit and questioned the justification for the proposed increase. The PORC was provided technical documentation prepared using industry guidelines. The PORC discussed industry operating experience and was informed that the increased leakage was bounded by the current safety analysis assumptions. The PORC evaluated the safety evaluation and chose to accept the recommendation to increase the administrative leakage limit with no exceptions.

c. Conclusions

The PORC review of the issue was of sufficient depth and detail to provide a good review of changes to facility operations and procedures. The documentation provided to the PORC was considered adequate to support the PORC decision.

07.2 Nuclear Safety Review Board (NSRB)

On September 12, 1996, the inspector attended the McGuire third quarter 1996 full board NSRB meeting held at the Catawba site. Site presentations to the board included plant performance, reportable events, violations, trends, a corrective action audit, status of component mispositioning trends and Maintenance Rule A-1 systems. In addition, a variety of management attention items, team reports and site tour results were discussed. The inspector considered that the Site Vice-President presented the NSRB with a candid reflection of site performance. The NSRB expanded a variety of subjects to explore the full extent of problems and probe potential root or common cause of site issues. The inspector considered that the NSRB was diverse and gave site management good oversight on numerous issues.

08 Miscellaneous Operations Issues (92901)

- 08.1 (Closed) VIO 50-369, 50-370/95-023-01: Failure to take adequate corrective actions for prior violations. NRC Inspection Report 50-369, 50-370/95-23 identified that management oversight problems existed in

the area of compliance with 10 CFR 55.25 reporting requirements. Since that inspection, the licensee has revised the medical procedures which require extensive review and accountability for reporting changes of medical status for licensed operators. The inspector verified the corrective actions and found them to be reasonable and complete. No similar problems were identified.

- 08.2 (Closed) DEV 50-369, 50-370/95-023-02: Failure to meet Licensee corrective actions described in reply to VIO 94-17-01. NRC Inspection Report 50-369, 50-370/95-23 identified that management failed to follow corrective actions described to the NRC in order to identify changes in medical status of licensed operators. Since that inspection, the licensee has revised the medical procedures which required additional review and double verification of changes to medical examinations of licensed operators by a person knowledgeable with ANSI/ANS 3.4-1983, R. 1988. The inspector verified the corrective actions and found them to be reasonable and complete. No similar problems were identified.

II. Maintenance

M1 Conduct of Maintenance

M1.1 General Comments (61726 and 62707)

The inspectors witnessed selected surveillance tests to verify that approved procedures were available and in use, test equipment in use was calibrated, test prerequisites were met, system restoration was completed, and acceptance criteria were met. In addition, the inspectors reviewed and/or witnessed routine maintenance activities to verify, where applicable, that approved procedures were available and in use, prerequisites were met, equipment restoration was completed, and maintenance results were adequate.

a. Inspection Scope

The inspectors observed all or portions of the following work activities:

- PT/1/A/4201/01A RWST Level Auto-Switchover Analog Channel Operational Test
- IP/1/A/3000/22A Reactor Coolant System Flow Calibration Loop A, Protection Channel 1, Unit 1 INCFT5000
- PT/0/A/4600/04 Incore Instrumentation Detector Calibration
- PT/0/A/4150/07 Verification of QPTR Using Detectors
- PT/0/A/4450/08A Control Room Outside Air Pressure Filter Train A Test

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- IP/O/A/3000/01A Reactor Coolant System Wide Range Pressure Calibration

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 On-line Leak Repair of Pressurizer Liquid Space Sample Isolation Valve, 1NC45

a. Inspection Scope (62707)

The licensee discovered that the pressurizer liquid space sample isolation valve, 1NC45, exhibited external leakage past the body to yoke threads and the secondary stem packing. The valve, a 3/4 inch, manual globe valve, was used to isolate the pressurizer liquid space sample line. Since the valve was the first isolation valve off of the pressurizer liquid space, failure could result in an unisolable reactor coolant leak requiring unit shutdown. The licensee began routine monitoring of the leakage and initiated activities to perform an on-line leak seal repair. This maintenance evolution was performed at full temperature and pressure and could have potentially impacted nuclear safety. A Plant Operations Review Committee (PORC) meeting was convened to evaluate the proposed repair plans and supporting documentation prior to the start of this on-line maintenance activity.

b. Observations and Findings

The inspectors attended the meetings and noted that the appropriate level of management involvement was present as well as technical staff members. The maintenance plan included removing portions of the Incore Instrument Room Ventilation system duct work to establish an egress path for the workers conducting the leak seal of 1NC45.

Since the valve yoke was constructed of carbon steel, the PORC questioned the structural integrity of the valve due to the presence of the borated reactor coolant. Selected calculations were provided to the PORC members for review to support the assumption that adequate yoke thread engagement was present, minimizing the potential for a significant structural failure of the valve prior to and/or during the repair activities. The PORC also briefly discussed the isolation of portions of the incore instrument room ventilation system to provide an emergency egress path for workers involved in the leak repair and was assured that no operability issues, unreviewed safety questions, or other adverse effects would be introduced. The PORC approved the evaluation of valve structural integrity and the proposed repair plan. The PORC determined that since this was an infrequently performed and risk significant evolution, additional management overview was warranted. A management sponsor was selected to provide oversight of the activity to ensure that appropriate pre-job briefings were performed and contingency plans were established and approved.

The inspectors attended the pre-job briefing conducted by the management sponsor. Representatives from the appropriate station organizations were in attendance. During the briefing, the inspectors noted that adequate emphasis was placed on the importance of procedure adherence, good communication, and personnel safety. The inspectors independently reviewed the licensee's evaluation for the on-line maintenance activities and determined that an adequate review was performed. The inspectors also noted that the repair activities were completed as planned. The inspectors verified that the volume of sealant necessary did not exceed predetermined specifications. Following the repair, the inspectors performed visual inspection of the installed modification in the containment. After confirming that no visible leaks were present, the inspectors concluded that the modification should provide increased structural support and minimize external leakage from the RCS. The inspectors also verified that the licensee plans to replace INC45 during the upcoming Unit 1 refueling outage.

c. Conclusions

The inspectors concluded that a good questioning attitude and good planning resulted in a well executed on-line leak repair of the pressurizer liquid space sample isolation valve, INC45.

M3 Maintenance Procedures and Documentation

M3.1 Containment Annulus Ventilation System Train B Operability Test

a. Inspection Scope (61726)

On September 29, during backshift observations of control room activities, the inspector observed PT/1/A/4450/03B Annulus Ventilation System Train B Operability Test. The purpose of the test was to demonstrate the operability of the 1B annulus ventilation fan, HEPA filters, and preheaters. The inspectors reviewed the surveillance test procedure and the acceptance criteria in detail.

b. Observation and Findings

The annulus ventilation system consists of two independent 100% capacity ventilation trains. During and following an accident, each train is capable of producing and maintaining a negative pressure in the annulus (the annular space between the steel containment vessel and the concrete Reactor Building wall) to ensure that airborne radioisotopes released from the containment are retained in the annulus. Each train also provides long term fission product removal capability to minimize the release of these airborne products of radiation to the environment. Each train consists of an annulus ventilation filter train, an annulus fan, dampers, instrumentation and duct work. Each filter train consists

of a moisture eliminator, a preheater, a prefilter, two HEPA filter banks, and a gasketless carbon adsorber. The preheater limits the incoming air to 70% relative humidity to ensure the efficiency of the carbon adsorber used to remove radioactive iodine.

Technical Specification 4.6.1.8(a) requires that flow be established through the HEPA filters and charcoal adsorbers with the preheaters energized for at least 10 hours monthly on a STAGGERED TEST BASIS. The inspectors noted that preheater operations was verified at the beginning of the test and that this action was documented in the applicable procedure. The inspector reviewed applicable sections of the licensee's UFSAR and DBD and noted the function of the preheaters in system operation.

Technical Specification Bases indicated that the operation of the preheaters for at least 10 hours over a 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. This increases the safety margin of the filters. The inspectors reviewed the applicable procedure and noted that it did not provide instructions to control room operators to verify that the pre-heaters had remained energized for the duration of the surveillance test.

The licensee reviewed the issue and declared the ventilation system past operable. The inspector reviewed records of previous surveillances. No deficiencies were found that would have indicated that preheater failure had occurred during previous surveillance. In addition, the licensee developed a team to perform a comprehensive review of surveillance procedures in use at the station to ensure TS surveillance requirements are met.

c. Conclusions

The inspector concluded that the licensee's current procedure did not contain adequate instructions to ensure that the system preheaters were energized for at least 10 hours as required by the Technical Specification. The inspectors have noted other examples in which procedures did not fully incorporate TS requirements. Section M3.2 of this report describes an example. The failure to fully incorporate TS requirement into procedures is a Violation of Technical Specification 6.8.1, and is identified as Violation 50-369,370/96-08-02, Inadequate Containment Annulus Surveillance Procedure.

M3.2 RCS Flow Measurements

a. Inspection Scope (62707, 93702)

On October 10, the licensee entered TS 3.0.3 on Unit 1 due to 2/3 channels of the Reactor Coolant Flow Loop A Low Flow Trip setpoints being below the minimum allowable value as specified by the TS. The low setpoints were identified during a review of NC loop flow calibration

procedures for the upcoming S/G replacement project. The inspector reviewed the licensee's actions.

b. Observations and Findings

With the identification of two of three channels for Unit 1 RCS loop A flow trip non conservatively adjusted, the unit was placed in a 6 hour shutdown LCO. According to TS requirements, the setpoints were to be adjusted between 90 and 91 percent of minimum measured flow per loop (95500 gpm). However, the A loop channels did not meet the acceptance criteria because of non-specific loop flow procedural requirements. The actual change in RCS flow could have been affected by tube plugging, fuel core design changes, and reactor coolant pump performance.

The prior procedural method for determining RCS flow was based on use of a calorimetric heat balance on the plant secondary side divided by the primary side differential enthalpy. Over the years, the calorimetric based method of flow surveillance has resulted in a decreasing indicated flow trend that is not consistent with the changes in the system hydraulics or other indications of flow. The licensee stated that the continuation of the trend resulted in an unacceptable penalty and an inability to predict a parameter that is essential for plant operation and safety. As a result, the licensee submitted an amendment to change this method. The method was reviewed and authorized by the NRC; however, the licensee procedures did not appropriately ensure that individual loop flows met TS requirements.

To exit TS 3.0.3, the licensee immediately adjusted the A loop trip setpoints above the TS required flow setpoints and implemented work orders to correct the loop flow trip setpoints. These changes established operability of the RCS flow trip setpoints. Review of past operability of the system will be conducted and the licensee plans to issue a 10 CFR 50.73 report. Also, the licensee has begun an investigation into the inadequacy of communication between engineering and operations. The discovery was made early in the day; however, operations was not made aware of the concern until the discovery was confirmed. Operations considered that prior notification would have provided on-duty operators additional time to prepare for unit shutdown.

c. Conclusions

The inspectors concluded that the licensees identification and immediate response was good; however, this issue will remain open pending completion of the licensee's past operability evaluation. This issue will be identified as Unresolved Item 50-369/96-08-03: RCS Low Flow Trip Setpoints.

M4 Maintenance Staff Knowledge and Performance

M4.1 Planning and Scheduling of Post-Maintenance Testing Activities

a. Inspection Scope (62707)

The inspectors reviewed the effectiveness of the licensee planning and scheduling of post maintenance testing.

b. Observations and Findings

During reviews of licensee documentation and discussions with station personnel, the inspectors determined that the actions taken to resolve deficiencies in the maintenance planning process for post maintenance testing have not been completely effective in correcting previously identified concerns. Weaknesses continue in the planning of post-maintenance test (PMT) activities reducing the certainty that structures, systems, and components will perform their design functions. Affected equipment may be returned to service following maintenance without re-verification of component operability. Although no specific instances were identified, the inspectors determined that this process weakness has the potential to result in two train inoperability.

The inspectors reviewed the circumstances of recent "near misses" of required PMT activities (retest). The inspectors noted that retest tasks had not been identified for the various maintenance activities requiring a retest. However, the inspectors acknowledged that the deficiencies were detected and corrected prior to the returning the affected equipment to service or rendering the opposite train equipment inoperable. The specific work packages did not include appropriate requirements for returning affected equipment to operable status. The inspectors concluded that these retest omissions were due to inattention to detail, weaknesses in planning tools, and lack of clear process guidelines.

As a result of previous inspector concerns relating to the planning of retest activities documented in NRC Inspection Report 50-369,370/95-15, the licensee had initiated an evaluation of the work control process, as it related to PMT to reduce the potential for additional retest task omissions from work packages. Recommendations included requiring planners to review automatically generated preventive maintenance work orders for proper retest requirements and updating the model work orders to include retest tasks if necessary. The inspectors recognized that these actions had resulted in some reduced retest task omissions. Nevertheless, the potential for retest omissions is still present.

c. Conclusions

The inspectors concluded that additional management focus is necessary to ensure that post maintenance testing of equipment important to safety

is scoped, planned, scheduled and executed to minimize potential dual train operability impact.

M8 Miscellaneous Maintenance Issues (92902)

M8.1 (CLOSED) URI 50-369.370/96-07-03: PAM Recorder Isolator Wiring Modification

This item concerned the improper installation of isolators in post accident monitoring circuitry. Following further review and technical discussions with the licensee on root cause and significance of the event, the inspectors determined that this item is closed. However, since incorporation of isolators were part of FSAR requirements, the item will be listed as an additional example of URI 369, 370/96-04-02, FSAR Discrepancies.

III. Engineering

E1 Conduct of Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Safety Pump Room Temperature Detectors (37551)

a. Inspection Scope

While conducting a walkdown outside of the ND pump rooms, the inspector reviewed instrumentation that had been designated for use as room temperature detectors. The inspector noted that similar temperature detectors were found inside other safety-related pump rooms. Room temperatures are required to be monitored to ensure TS compliance. The inspectors reviewed this issue.

b. Observations and Findings

The inspector questioned the licensee whether the location of the instrumentation was appropriate since they were outside the safety pump rooms. The inspectors reviewed the Technical Specification surveillance requirements and noted that other safety-related equipment rooms were required to be monitored at least once per 12 hours. The inspector reviewed the auxiliary building ventilation system design basis document (DBD). The licensee's DBD stated that the instrumentation outside of the ND pump room was used to monitor ND pump room temperature. The inspector questioned the system engineering personnel. The system engineers conducted an investigation and provided electrical drawings that verified that the required instrumentation was located inside the safety pump rooms and was monitored by the OAC providing indications of safety pump room temperatures to verify compliance with technical specifications.

c. Conclusions

The inspector concluded that the safety pump rooms were appropriately monitored for temperature. The licensee developed and implemented a minor modification to correct the discrepancy in the DBD.

E2.2 CA Tempering Flow Elimination

a. Inspection Scope (37551, 92903)

The licensee performed a safety evaluation to eliminate tempering flow. The tempering flow had been a source of CA injection check valve heating resulting in steam void formation in the piping. This issue was previously discussed in IR 369,370/96-07. The inspectors reviewed the tempering flow issues.

b. Observations and Findings

Prior to the licensee's attempt to eliminate tempering flow, the inspectors verified that a 10 CFR 50.59 evaluation had been conducted to determine if an unreviewed safety question existed prior to implementing the modification. The licensee attempted to implement the CA tempering flow modification but halted their efforts due to unexpected changes in some CA piping surface temperatures. In addition, since installation of the new RTDs with tempering flow in the normal configuration, the licensee has observed unexplained cyclic changes in some CA piping surface temperatures. The licensee formed a project team to further evaluate the elimination of CA tempering flow.

The licensee had earlier modified the alignment to bypass a portion of the CF flow around both the A and B feedwater heaters. The bypass flow enters the common CF line upstream of the point where tempering flow is extracted. In this configuration, cooler water enters the tempering line. Currently, the Reactor Thermal Power Best Estimate (RTPBE) Calculation uses only final feedwater temperature when determining the enthalpy of the total feedwater entering the steam generator. Since the tempering flow temperature is less than the final feedwater temperature and tempering flow is approximately 1.7 percent of total flow, indicated reactor power as calculated by the RTPBE is less than actual reactor power. The inspectors noted that the overall effect of the lower tempering flow temperature effect on the RTPBE calculation was small, resulting in less than a 0.1% error. The inspector verified that rated thermal power limits were not exceeded.

c. Conclusions

The inspector concluded that the licensee's formation of a project team to evaluate the proposed elimination of tempering flow and unexpected changes in CA piping surface temperatures was good. The inspectors also concluded that the effect of the lower tempering flow temperature on the RTPBE was small and rated thermal power limits were not exceeded.

E4 **Engineering Staff Knowledge and Performance**

E4.1 Low Level Raw Water Intake Pump Operation

a. Inspection Scope (37551)

The licensee decided to run all three Low Level Raw Water Intake pumps to ensure proper operation of the pumps and increase the efficiency of the units. Engineering guidance was provided to control room operators to secure the pumps if certain parameters were exceeded. The inspectors reviewed the guidance provided to the control room operators.

b. Observations and Findings

To facilitate running the station with three low level intake pumps, engineering personnel requested that operations monitor three parameters to ensure that this configuration would not have an adverse impact on plant operation. These parameters included Lower Containment Weighted Average Temperature, RV Temperature and Lower Containment Ventilation Unit D Discharge Temperature. In the event that any of these parameters exceeded established limits for one continuous hour, all three LLI pumps should be secured and System Engineering notified.

The inspector reviewed the guidance and noted that only one of the three parameters were alarmed to warn control room operators if the established limits were exceeded. The inspector also noted that the guidance did not provide a trending frequency or method to prevent parameters from exceeding established limits. The inspector noted that the guidance had been reviewed by the Control Room SRO and reactor operator and determined to be satisfactory. The inspector reviewed the current operations procedure and noted that it contained no specific instructions concerning what critical information should be included in the engineering guidance. The inspectors considered that engineering guidance should provide control room operators additional instructions under special conditions that are not covered by current procedures or cannot be covered by changing existing procedures. The licensee and inspectors concluded that operations should re-evaluate the guidance for potential procedural improvements.

c. Conclusions

The inspectors concluded that a re-evaluation of current procedural guidance was warranted to ensure proper plant operation under special conditions not covered by existing procedures.

E4.2 Tracking of High Priority Operational issues

a. Observations and Findings (37551, 40500)

During the inspection period, the inspector reviewed one of the licensee's engineering based tracking mechanisms to better support resolution of plant problems. Specifically, the inspectors reviewed detailed expectations for implementation of the Plant Concerns and Action Register. The tracking process was developed by engineering to enhance operational focus by placing accountability on responsible groups for high priority, short term issues affecting the plant. The process is initiated by the Operations Shift Manager (OSM) identifying a problem for incorporation on the Plant Concerns list. If the issue is not cleared within 24 hours, the item is normally transferred to the Action Register for further monitoring, thereby leaving the Plant Concerns list small to highlight new and emerging issues. The Action Register is integrated with the PIP process for continuity with long term resolutions. The owners of Action Register issues are required to provide written updates on a periodic basis with a high level of detail to management and are asked to explain the progress on issues at the operations and management status meetings. The updates are continued until immediate operability or reliability has been addressed, the problem is resolved, or a satisfactory plan to address the problem is in place.

The inspectors monitored the licensee's use of the Plant Concerns and Action Register for the inspection period. The inspectors considered that plant personnel placed a high degree of ownership on their assigned Action Register items and that the updates given on a variety of issues were concise and provided real time status of the problem resolution process. The inspectors also noted that management utilized the process to monitor and ensure appropriate emphasis was placed on operational issues. Specifically, the inspectors noted good updates were provided for an intermittent MFW pump condenser vacuum change identified on Unit 2.

b. Conclusions

The inspectors concluded that the licensee's implementation of the Plant Concerns and Action Register was very beneficial in focusing plant

resources on operational concerns. The process was being implemented in a high quality manner and resulted in good management awareness and oversight of plant concerns and their resolution. The inspector also considered that the process was being appropriately use by operations shift supervisors to alert plant managers to high priority issues.

IV. Plant Support

P1 Conduct of EP Activities

P2 Status of EP Facilities, Equipment, and Resources (71750)

P2.1 After-hours Augmentation Drill performed on September 22, 1996.

Observations and Findings

On September 22, 1996, the inspectors observed the licensee perform an emergency preparedness augmentation drill to test the ability of their EP staff to man both required and desired positions. This drill was specifically planned to coincide with an event at the recently opened Ericsson Stadium to evaluate whether traffic from the event would impact the augmentation of the EOF and onsite facilities. The inspectors observed the augmentation of personnel at the TSC, OSC, and the EOF (via the video monitor system). The results indicated that all of the regulatory required positions had been filled at the locations; however, some desired positions were not filled, which indicated an area for improvement. The inspectors were informed that subsequent augmentation drills for the missed desired positions were being planned to correct this concern under PIP O-M-96-2713. The drill responders to the EOF reported that the event traffic during the drill did not adversely impact response times.

Conclusions

The inspectors concluded that the observed special augmentation drill was conducted in a professional manner and provided added assurance that increased traffic during stadium events would not adversely impact EOF responders. In addition, the licensee was taking corrective action for the desired positions not filled during the drill.

F1 Control of Fire Protection Activities

F3 Fire Protection Procedures and Documentation

F3.1 Fire Protection System Followupa. Inspection Scope (71750)

The inspector conducted followup on issues discovered during the last fire protection review. During the fire protection review, the inspector noted that FSAR Section 9.5.1.2.6 stated that the Control Room has an independent ventilation system which maintains the control room at a slight positive pressure. The FSAR further implied that the system prevents exterior contaminants or smoke from entering the control room. However, the control room ventilation system realigns to pressurize the control room only during accident conditions and no procedures were developed at the time for operations personnel to pressurize the control room if threatened by smoke or other contaminants. Smoke or other exterior contaminants entry into the control room could significantly degrade control room habitability complicating safe plant operation.

b. Observations and Findings

The inspector noted that the FSAR did not reflect the current normal configuration of the control room ventilation system and the practice of pressurizing the control room only during accident conditions. In addition, at the time of the inspection, no procedural guidance was available to operations personnel to activate the control room ventilation system to prevent the entry of smoke and other contaminants. As a result of the inspection, the licensee modified the FSAR to reflect the correct configuration of the control room ventilation system during normal operations. The FSAR was also updated to state that the system could be used during abnormal conditions to exclude smoke and other contaminants. Also due to the inspection and other related events, the licensee developed and implemented procedural guidance for operators to pressurize the control room during challenges to the control room habitability caused by smoke or other exterior contaminants.

c. Conclusions

The inspectors concluded that the licensee's corrective action was adequate and should improve the control room operators ability to mitigate the consequences of smoke or other exterior contaminants that could degrade control room habitability. This item will be added to Unresolved Item 96-04-02, FSAR Discrepancies.

V. Management Meetings**X1 Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on October 22, 1996. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

X2 NRC and Licensee Interface Meeting

On October 16, 1996, a periodic interface meeting was held at the McGuire site between the licensee, NRC headquarters and regional management, and the McGuire and Catawba Resident Inspector staffs. The meeting was considered to be beneficial in focusing all parties on important issues and improving NRC and Licensee communications.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Baxter, D., Shift Operations Manager
Byrum, W., Manager, Radiation Protection
Boyle, J., Mechanical/Nuclear Systems Engineering
Cross, R., Technical Specialist II
Deese, R., Outage Manager, Work Control
Dolan, B., Manager, Safety Assurance
Geddie, E., Manager, McGuire Nuclear Station
Herran, P., Manager, Engineering
Horne, M., Supervisor, Maintenance
Jones, R., Superintendent, Operations
Lindsay, A., Operations Training Manager
Loucks, L., Radiation Protection Manager (Acting)
Matthews, B., Supervisor, Engineering
McMeekin, T., Vice President, McGuire Nuclear Station
Michael R., Chemistry Manager
Nazar, M., Superintendent, Maintenance
Sample, M., Manager, Steam Generator Maintenance Group
Snyder, J., Manager, Regulatory Compliance
Thomas, K., Superintendent, Work Control
Thrasher, J., Manager, Modification Engineering
Travis, B., Manager, Mechanical/Civil Equipment Engineering
Tuckman, M., Senior Vice President, Duke Power Company

NRC

S. Shaeffer, Senior Resident Inspector, McGuire
M. Sykes, Resident Inspector, McGuire
G. Harris, Resident Inspector, McGuire
S. Rudisail, Project Engineer, RII
R. Baldwin, Regional Inspector

INSPECTION PROCEDURES USED

IP 93702: Prompt Onsite Response to Events at Operating Power Reactors
 IP 71707: Conduct of Operations
 IP 71750: Plant Support
 IP 62707: Maintenance Observations
 IP 61726: Surveillance Observations
 IP 40500: Self Assessment
 IP 37551: Onsite Engineering
 IP 71001: Licensed Operator Requalification Program Evaluation
 IP 92901: Operations Follow-up
 IP 92902: Maintenance Follow-up
 IP 92903: Engineering Follow-up

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

URI 50-369,370/96-08-01 Operator Abnormal Procedure Usage
 (paragraph 02.2)
 VIO 50-369,370/96-08-02 Inadequate Containment Annulus
 Surveillance Procedure (paragraph M3.1)
 URI 50-369,370/96-08-03 RCS Low Flow Trip Setpoints (paragraph
 M3.2)

Closed

VIO 50-369,370/95-23-01 Failure to take adequate corrective
 action, 3 examples (paragraph 08.1)
 DEV 50-369, 370/95-23-02 Failure to meet Licensee corrective
 actions described in reply to VIO 94-17-01
 (paragraph 08.2)
 URI 50-369,370/96-07-03 PAM Recorder Isolator Wiring Modification
 (paragraph M.8.1)

Discussed

URI 50-369,370/96-04-02 FSAR Discrepancies (paragraphs M8.1 &
 F3.1)

LIST OF ACRONYMS USED

AP	Abnormal Procedure
CA	Auxiliary Feedwater
CCT	Crew Critical Tasks
CF	Main Feedwater
DBD	Design Basis Document
DEV	Deviation
EOF	Emergency Operations Facility
EP	Emergency Preparedness
ESF	Engineered Safety Features
FSAR	Final Safety Analysis Report
gpd	gallons per day
HEPA	High Efficiency Particulate Air
IAE	Instruments and Electrical
IP	Inspection Procedure
JPM	Job Performance Measures
KC	Component Cooling Water System
LCO	Limiting Conditions Operating
LLI	Low Level Raw Water Intake
MFW	Main Feedwater
MSD	McGuire Site Directive
NC	Reactor Coolant
ND	Residual Heat Removal
NLO	Non-Licensed Operator
NSD	Nuclear System Directive
NSRBR	Nuclear Safety Review Board
OAC	Operator Aided Computer
OMP	Operations Management Procedure
OSC	Operations Support Center
OSM	Operations Shift Manager
OTP	Operations Training Procedure
PAM	Post-Accident Monitoring
PDR	Public Document Room
PIP	Problem Investigation Process
PMT	Post-Maintenance Test
PORC	Plant Operations Review Committee
QPTR	Quadrant Power Tilt Ratio
RCS	Reactor Coolant System
RO	Reactor Operator
RTD	Resistance Temperature Detector
RTPBE	Reactor Thermal Power Best Estimate
RV	Containment Ventilation
RWST	Refueling Water Storage Tank
SRO	Senior Reactor Operator
TEPR	Top Equipment Problem Resolution

TS
TSC
UFSAR
URI
VIO

Technical Specifications
Technical Support Center
Updated Final Safety Analysis Report
Unresolved Item
Violation