



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

September 24, 2004

Duke Energy Corporation  
ATTN: Mr. D. M. Jamil  
Site Vice President  
Catawba Nuclear Station  
4800 Concord Road  
York, SC 29745

**SUBJECT: CATAWBA NUCLEAR STATION - NRC PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT 05000413/2004009 AND  
05000414/2004009**

Dear Mr. Jamil:

On August 27, 2004, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Catawba Nuclear Station. The enclosed inspection report documents the inspection findings which were discussed on August 27, 2004, with you and other members of your staff.

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

On the basis of the sample selected for review, there were no findings of significance identified during the inspection. The team concluded that, in general, problems were properly identified, evaluated, and corrected. It was noted that actions taken to correct equipment problems have sometimes been slow; but, increased management attention has been applied to equipment problems and increasing equipment reliability. There were also several instances identified where problems had not been promptly and/or thoroughly captured in Problem Investigation Process reports (PIPs). The lack of thoroughness and accuracy in these PIPs adversely impacted the proper coding of problems (especially human performance deficiencies) for trending and development of proper corrective actions.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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

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

Sincerely,

**/RA/**

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

Docket Nos. 50-413, 50-414  
License Nos. NPF-35, NPF-52

Enclosure: NRC Inspection Report 05000413/2004009 and 05000414/2004009  
w/Attachment: Supplemental Information

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**U. S. NUCLEAR REGULATORY COMMISSION**

REGION II

Docket Nos: 50-413, 50-414

License Nos: NPF-35, NPF-52

Report No: 05000413/2004009, 05000414/2004009

Licensee: Duke Energy Corporation

Facility: Catawba Nuclear Station, Units 1 and 2

Location: 4800 Concord Road  
York, SC 29745

Dates: August 9-27, 2004

Inspectors: K. Van Doorn, Senior Reactor Inspector, Lead Inspector  
A. Sabisch, Resident Inspector  
M. Scott, Senior Reactor Inspector  
R. Rodriguez, Reactor Inspector

Approved by: R. Haag, Chief  
Reactor Projects Branch 1  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000413/2004009, 05000414/2004009; 08/09-27/2004; Catawba Nuclear Station; Units 1 & 2; Identification and Resolution of Problems.

The inspection was conducted by two senior reactor inspectors, a resident inspector, and a reactor inspector. 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.

### Identification and Resolution of Problems

The licensee was generally effective in identifying problems at a low threshold and entering them into the corrective action program. The licensee properly prioritized issues and routinely performed adequate evaluations that were technically accurate and of sufficient depth. However, the licensee was slow at times to initiate Problem Investigation Process reports (PIPs) for documenting conditions adverse to quality that met the initiation criteria established in the program procedures. In addition, examples were identified where problems were not accurately and thoroughly described in PIPs; thereby, adversely impacting the licensee's ability to properly code the problems for trending and develop proper corrective actions. This was especially true with respect to human performance deficiencies.

Several examples of recurring problems were noted after corrective actions had been completed. It was also noted that actions taken to correct equipment problems have sometimes been slow; but, licensee management applied increased attention to equipment problems and increasing equipment reliability through the Equipment Reliability Initiative started in early 2004. The licensee's self-assessments and audits were effective in identifying deficiencies in the corrective action program. The inspectors did not identify any reluctance by plant personnel to report safety concerns.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution

##### a. Effectiveness of Problem Identification

##### (1) Inspection Scope

The inspectors reviewed procedures associated with the Corrective Action Program (CAP), which described the administrative process for initiating and resolving problems via Problem Investigation Process reports (PIPs). The inspectors selected PIPs for review covering various cornerstones, risk significance, and site departments. The inspectors also conducted a detailed review of PIPs for four risk significant systems and risk significant components. The systems included the Auxiliary Feedwater System (CA), the Vital AC electrical system, the Emergency Diesel Generators (EDGs), and the Nuclear Service Water System (RN). Components included the Refueling Water Storage Tank (FWST) and components associated with flood events. For these selected systems/components, the inspectors reviewed associated system health reports, maintenance history, and completed Work Orders (WOs). PIPs associated with problems previously identified by the NRC were also selected for review. The inspectors also reviewed NRC inspection reports that documented NRC reviews over the last two years. This review was performed to verify that problems were being properly identified, appropriately characterized, and entered into the CAP.

The inspectors also conducted plant walkdowns of equipment associated with the selected systems/components to assess the material condition and to look for any deficiencies that had not been entered into the CAP.

The inspectors reviewed selected industry operating experience items associated with the systems/components, including NRC generic communications, to verify that these were appropriately evaluated for applicability and whether issues identified through these reviews were entered into the CAP.

The inspectors reviewed licensee self-assessments, including those which focused on problem identification and resolution to verify that findings were entered into the CAP and to verify that these findings were consistent with the NRC's assessment of the licensee's CAP.

The inspectors also attended various plant meetings to observe management and oversight functions of the corrective action process. These included daily site direction meetings, PIP screening meetings, and both the site and departmental Corrective Action Review Board (CARB) meetings. In addition, the inspectors reviewed CARB meeting results for the last two year period. The inspectors also held discussions with various personnel to evaluate their threshold for identifying issues and entering them into the CAP.

Documents reviewed are listed in the Attachment to this report.

(2) Assessment

The inspectors determined that the licensee was generally effective in identifying problems and entering them into the CAP. In general, the threshold for initiating PIPs was low and employees were encouraged by management to initiate PIPs. Equipment performance issues were being identified at a low threshold level and entered into the CAP.

Self-assessments were self-critical and were effective in identifying value added issues that were entered into the CAP where appropriate. Site management was actively involved in the CAP process and focused appropriate attention on significant plant issues. The CARB meetings provided valuable insights and oversight of the CAP process.

The inspectors noted that the licensee was sometimes slow to initiate PIPs for documenting identified conditions adverse to quality. For the examples noted, the initiation criteria established in the CAP guidance procedures was met. Despite these issues being communicated to the licensee, PIPs were not initiated in a timely manner (i.e., CAP guidance states to initiate a PIP within 24 hours of identification.) Examples of untimely identification of issues in the CAP included PIPs C-04-4031, 04-4028, 04-3809, 04-1688, and 04-470.

For some PIPs, the licensee failed to thoroughly and accurately describe the issue and/or human performance attribute. An incomplete problem description was noted in PIPs C-04-3809 and 04-4028. Examples of the licensee's failure to document human performance errors were reflected in PIPs C-04-4028, 04-3108, 04-2533, 04-1991, 04-470, 04-1688, 03-5691, and 03-4815. The related problems, which typically involved technical procedural usage and adherence deficiencies, were considered to be low level issues not requiring any type of causal evaluation. These problems were usually captured in the lowest level (i.e., Action Category Level 4) PIPs, with no cause code identified. For example, PIP C-03-5691, which involved the failure to use the designated gauge when obtaining data for a CA pump test, was classified as a Level 4 with no mention of the human error. Operations management incorrectly considered this issue to be an effective use of self-check practices. Similarly, Category Level 4 PIP C-03-4815, involving an NRC-identified problem with debris in the containment sump, inappropriately stated that the procedure for sump inspection lacked sufficient detail when the procedure clearly required personnel to ensure debris was not present in the sump area. The PIP further stated that corrective actions would be completed as followup for NRC Bulletin 2003-01 regarding adequacy of containment sumps. However, the procedure was not changed and additional minor problems were later noted when the sump was inspected. The failure to fully describe all aspects of a problem in the associated PIP, adversely impacted the licensee's ability to properly code the problems for trending and develop proper corrective actions. As indicated by the number of PIPs identified above, this was especially true with respect to human performance deficiencies.

(3) Findings

No findings of significance were identified.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

In conjunction with the inspections discussed in Section 40A2a., the inspectors reviewed site trend reports, CAP backlogs, CAP performance indicators, and trend PIPs to verify that the licensee appropriately prioritized and evaluated problems in accordance with their risk significance. The inspectors assessed whether the licensee adequately determined the cause(s) of the problems, including root cause where appropriate, and adequately addressed operability, reportability, common cause, generic concerns, extent of condition, and extent of cause. The review also assessed whether the licensee appropriately identified corrective actions to prevent recurrence and if these actions had been appropriately prioritized.

(2) Assessment

The inspectors determined that the licensee had adequately prioritized issues entered into the CAP. Generally, the licensee performed evaluations that were technically accurate and of sufficient depth. The inspectors determined that site trend reports were thorough and a low threshold was established for evaluation of potential trends.

As noted in Section 40A2a., a number of PIPs failed to document the human performance aspects of the issues. Despite these specific observations being discussed with the licensee on several occasions, their acknowledgement and evaluation to understand the extent of the problem has been slow.

For some problems, the licensee had been slow in completing corrective actions. The licensee had recognized this and was providing more management oversight via CARB for the more significant actions and, in general, increased management attention for more than minor issues, such as a management review of oldest PIPs. The inspectors noted that the licensee sometimes initiated a corrective action in a PIP to perform an evaluation whether a procedure or training problem exists rather than perform these types of evaluations as part of the problem evaluation prior to assignment of required corrective actions. This practice in some cases contributed to untimely development of corrective actions.

(3) Findings

No findings of significance were identified.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed licensee effectiveness reviews and confirmed the implementation of various corrective actions associated with PIPs. For some of the PIPs discussed in Sections 40A2a. and b., the inspectors assessed whether the licensee had identified and implemented timely and appropriate corrective actions to address problems. In addition, the inspectors provided special attention regarding



status of corrective actions for PIPs C-01-884 and 01-3162, involving bio-fouling and corrosion of RN piping. The inspectors also reviewed a video tape inspection of the 42-inch diameter RN line from the lake to the pump house. The inspectors verified that the corrective actions were properly documented, assigned, and tracked to ensure completion.

(2) Assessment

In general, corrective actions developed and implemented for problems were timely, effective, and commensurate with the safety significance of the issues. Based on a review of NRC inspection results and equipment problems since the last Problem Identification & Resolution inspection (two years ago), the inspectors concluded that the licensee had sometimes been slow to correct equipment problems and fully recognize the extent of equipment reliability issues. However, licensee management had recognized equipment reliability as a significant issue requiring increased management attention as evidenced by the Equipment Reliability Initiative started in early 2004. Most of the major corrective actions associated with this initiative had been completed as of the current inspection and re-prioritization of equipment corrective actions had been performed.

Three examples of problems were noted that had corrective actions which were less than fully effective, in that, similar problems recurred after all corrective actions had been completed. The associated PIPs were C-04-4064, involving inadequacies in Operations freeze protection procedures, C-04-4031, involving radiation survey and posting errors, and C-03-4815, involving debris in the containment sump.

The licensee has been slow to develop final repairs for RN piping problems. However, inspections and development of RN piping problem corrective actions are ongoing and the licensee has established a new project team to provide increased attention for this problem.

(3) Findings

No findings of significance were identified.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

During technical discussions with members of the plant staff the inspectors conducted interviews to develop a general perspective of the safety-conscious work environment at the site. The interviews were also to determine if any conditions existed that would cause employees to be reluctant to raise safety concerns. The inspectors also reviewed the licensee's employee concerns program (ECP) which provides an alternate method to the CAP for employees to raise concerns and remain anonymous. The inspectors interviewed the ECP Coordinator and reviewed an ECP report and associated corrective actions to verify that concerns were being properly reviewed and identified deficiencies were being resolved and entered into the CAP when appropriate.

(2) Assessment

Based on this inspection and the PIP reviews, the inspectors concluded that licensee management emphasized the need for all employees to promptly identify and report problems using the appropriate methods established within the administrative programs. The inspectors did not identify any reluctance to report safety concerns.

(3) Findings

No findings of significance were identified.

4OA6 Management Meetings

On August 27, 2004 the inspectors presented the inspection results to Mr. D. Jamil, Site Vice President, and other members of his staff, who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

## **SUPPLEMENTARY INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee personnel**

D. Jamil, Vice President, Catawba Nuclear Station  
M. Glover, Station Manager  
B. Dolan, Engineering Manager  
W. Pitesa, Operations Manager  
C. Trezise, Maintenance Manager  
R. Sweigart, Safety Assurance Manager  
J. Foster, Radiation Protection Manager  
F. Smith, Chemistry Manager  
M. Patrick, Work Control Manager  
J. Thrasher, Modification Engineering Manager  
G. Hamrick, System Engineering Manager

#### **NRC personnel**

Eugene Guthrie, Senior Resident Inspector, Catawba

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

#### **Opened**

None

#### **Opened and Closed**

None

#### **Previous Items Closed**

None

#### **Discussed**

None

### **LIST OF DOCUMENTS REVIEWED**

#### **Procedures**

Nuclear System Directive (NSD) 208, Problem Investigation Process, Rev. 26  
NSD 210, Corrective Action Program, Rev. 4

NSD 223, Trending Program, Rev. 4  
NSD212, Cause Analysis, Rev. 14  
NSD 204, Operating Experience Program (OEP) Description, Rev. 8

### **Miscellaneous PIPs and PIPs Associated with NRC Observations**

C-03-1028, KC-281 Relief not sized for two phase flow  
C-03-64, KC and NI design basis documents - relief valve KC-281  
C-04-134, Adverse trend involving Safety Tagging from initial development through execution  
C-03-3689, Valve assemblies installed backwards for diesel generator fuel injection pumps  
C-03-7305, A VCT auto-makeup resulted in an improper boric acid addition and unanticipated power increase  
C-03-7109, Post Mode 4 inspection of reactor building by NRC inspectors after Operations cleanliness PT was performed  
C-02-3087, Licensee identified failure to meet the requirements of TS 3.6.14 for containment divider barrier hatch opening (emergency containment hatch found unsecured)  
C-02-3860, Failure to establish adequate document control measures  
C-02-3685, Licensee identified failure to maintain the 1B EDG operable in accordance with Technical Specification 3.8.1 requirements  
C-02-1091, Pipe spray interaction affecting safety-related equipment  
C-03-3143, Radiological data posting in the primary Chemistry Hot Lab had not been updated.  
C-04-0958, RP Self Assessment related to PIP C-03-3143  
C-04-0331, Fire penetration seal J-AX-533-F005 was found to be open and should be sealed in accordance with drawing CN-1105-16.01  
C-03-4815, Material condition and housekeeping discrepancies noted during NRC walkdown of lower containment  
C-03-389, Operations Test Group performance adverse trend  
C-03-3906, Inaccurate information provided to NRC  
C-01-2276, Correction of ventilation systems design documents  
C-00-5159, Question concerning glycol containment isolation valve capability  
C-04-2920, Emerging trend for apparent cause evaluations  
C-03-5344, Maintenance procedure compliance improvements  
C-03-5598, Emergent trend for out of tolerance problems  
C-03-5789, Repetitive problem with SP system valves  
C-03-3106, Negative trend for misposition events  
C-98-3252, Ventilation system bypass leakage questions  
C-02-1512, Questions regarding ambient losses from pressurizer impacting SSF operation  
C-01-3174, Standby Shutdown Facility (SSF) design documentation improvements  
C-03-691, Numerous unplanned LCO entries  
C-02-5656, Corrective action effectiveness review  
C-04-110, Corrective action effectiveness review  
C-04-1844, 2003 equipment reliability problems  
C-04-675, Large number of equipment failures

### **Vital AC Electrical System PIPs**

C-02-2968, 1EOC13 high voltage post outage critique  
 C-02-3407, Potential spraydown onto 2ETA (4160 vital bus)  
 C-03-45, Potential for secondary level undervoltage relays to not perform as required  
 C-03-2248, 2EOC12 high voltage electrical post outage critique  
 C-03-5376, Crack discovered in potential transformer fuse removed from 1ETA-19

### **Emergency Diesel Generator PIPs**

C-03-222, The low air temperature alarm in the EDG room on the OAC does not occur until the minimum tech specs limit temperature has been reached  
 C-03-334, Unexpected entry into Tech Specs for 1A EDG due to low battery cell temperatures  
 C-03-5887, Jacket water leak on the 2B diesel generator resulting from a small crack on the turbocharger casing  
 C-03-329, 1A EDG declared inoperable due to average electrolyte temperature of battery cells less than 66F  
 C-03-762, 2A EDG low right bank turbocharger oil pressure alarm received during test  
 C-03-453, 2B EDG low pressure turbo oil right front annunciator came into alarm  
 C-04-845, Low turbocharger oil pressure on the right bank turbo is staying in alarm throughout the engine run on EDG 2A

### **Nuclear Service Water System PIPs**

C-02-375, RN pit inspection moved to an Innage from Outage  
 C-03-1389, Implementation of SLC 16.7-6 discharge implementation unclear  
 C-03-2732, Yard Manhole Inspection Program  
 C-01-884, Buried RN piping  
 C-01-3162, Degraded RN piping to the EDGs  
 C-02-4734, 1RN40B back-wash isolation valve would not open  
 C-01-2802, High cycle MOV actuators identified  
 C-02-5009, PIP documents PORC action items  
 C-02-5778, Tube cleaning of KV heat exchangers documentation  
 C-02-6009, RN out of tolerance (OOT) identified on Work Order (WO) 98514503-01  
 C-02-6210, RN OOT Identified on WO 98548123-01  
 C-04-844, Evaluation of NS HX 1B heat capacity program  
 C-04-1369, 2B RN pump cable has a nick in jacket  
 C-02-614, RN OOT identified in WO 98502547-01  
 C-03-15, 1RN-304B found open with power on (YC chiller control valve)  
 C-03-1028, KC relief valve KC281 not sized for two phase flow  
 C-01-1749, RN flow balance "A" train  
 C-02-6223, RN pump 1A motor upper bearing oil cooling flow  
 C-02-6531, RN OOT identified on WO 98550400-01  
 M-2-4622, "B" Train RN suction for both units swapped  
 C-03-47, Pinhole leak at weld on 24 inch RN supply piping to 2B KC HX  
 C-02-4602, Through wall leak detected on 2VG HX ACB1  
 C-02-93, Evaluate copper concentration test on KC HX  
 C-03-491, Cathodic protection yet to be hooked-up to new RN piping

C-03-4636, RN motor cooler flow questions  
 C-02-5182, RN pump discharge flow instrument needs to be dampened.  
 C-02-5500, While performing a refurbishment on a Limitorque actuator from valve 1RN-292B found grease to be hardened  
 C-02-5709, Activities associated with the NRC note in the Federal Register for the proposed temporary TS changes to support the RN train 'A' pipe replacement project  
 C-02-6048, Failed to identify tubes plugged prior to 1EOC13 in MOD CNCE-71741  
 C-02-6448, 2RN-40B motor lead failed during disassembly  
 C-03-3496, Unplanned TSAIL entry  
 C-03-4636, Summary of findings from the review of calculation CNC-1223.24-00-0048.  
 C-03-5539, 1RNPG5120 reading just at or below the rounds minimum value for the last year  
 C-03-5854, 1A RN Pump below rounds range for Upper Bearing Oil Cooler flow  
 C-03-6301, 1RN-483 is leaking by the seat  
 C-04-1876, Required enclosures for AP/0/A/5500/020 Loss of Nuclear Service Water actions at the SSF are not located at the SSF

### **Instrument Air System PIPs**

C-02-4727, All VI compressors found running  
 C-03-5738, Procedure to run backup VI diesel compressor  
 C-02-4700, VI "F" motor problem during functional testing  
 C-02-5915, Review process of Modification CE-71078  
 C-03-2905, Restore Instrument Air or align backup nitrogen  
 C-02-5340, Diesel compressor pre-filter isolation valve cracks  
 C-02-6398, PM frequency change  
 C-03-652, Compressor E operating in lead  
 C-03-2643, Deficiency tag hanging and deficiency cleared  
 C-03-3766, Oscillating sound heard from compressor F  
 C-04-129, Digital radiography instead of disassembly  
 C-03-4225, Instrument Air in breaker shop  
 C-03-5287, Air oil sample failed in Turbine Building  
 C-03-6086, "D" compressor failed to start by computer  
 C-04-1902, PZR spray control valve  
 C-03-6086, "D" compressor failed to start  
 C-03-6907, "E" compressor failed to start under test conditions  
 C-04-2409, "D" compressor monitoring  
 C-04-2531, Minor Modification for 1LXI-06A breaker relay  
 C-04-2315, Operations preps for cold weather  
 C-03-7182, Discrepancy with filter differential pressure limits  
 C-03-6625, Excessive moisture in VI line  
 C-03-2581, Flow restrictor devices may be installed incorrectly  
 C-03-2920, Evaluate "Manually Align Diesel Driven Air Compressor Following Loss of Offsite Power" as a Time Critical Operator Action  
 C-04-1715, An evaluation needs to be performed to determine if Desiccant Air Dryers should be abandoned

### **Auxiliary Feedwater System PIPs**

C-96-1300, Overspeed indication light causes TDAFW inoperability  
 C-98-585, Performance of Unit 2 TDAFW pump IWP test  
 C-02-6031, Auxiliary Feedwater flow control valve accumulator leakage test  
 C-01-1534, Maximum temperature in CA TDAFW pit  
 C-02-4490, Evaluate re-test of PT1/2/A/4250/003 D  
 C-02-5810, 1A CA pump restarted unexpectedly  
 C-02-4389, CAPT manual linkage setup incorrectly  
 C-02-5276, PT/1/A/4200/079 Encl. 13.8 acceptance criteria not met  
 C-02-5779, CAPT testing during coastdown  
 C-02-6305, CSB 2002-04: Votes calibrator inaccuracy  
 C-04-757, Unexpected EDG battery ground during CA turbine pump run  
 C-03-884, 1A CA Pump Motor bearing vibration data indicated "BAD" during IWP data collection  
 C-03-3982, Containment integrity valve 2 CA 0170 has a seat leak  
 C-04-1283, Unexpected Tech Spec entry for inoperable CA flow indication to 1C SG.  
 C-04-3251, Burnt relay associated with Heat Trace Channel 10.

### **Flood Protection Component PIPs**

C-03-7137, Flooding on RC pump suction valve pit  
 C-01-5748, Water box expansion joint leak  
 C-01-425, Discrepancy between vendor and site practice for rubber expansion joints  
 C-01-435, Cracks on condenser inlet expansion joints  
 C-01-5184, Condenser outlet expansion joint leak  
 C-01-5748, Water box expansion joint leak  
 C-03-6565, Wrinkles observed on internal rubber seals on expansion joints  
 C-03-1816, Waterbox seal ring severely corroded  
 C-03-5277, Pinhole leak in RC piping

### **Refueling Water System PIPs**

C-99-3754, Non-qualified hydrogen piping near Refueling Water Storage Tank (FWST)  
 C-02-2094, Numerous work requests generated for boric acid buildup on various components  
 C-03-4566, Unplanned entry into T.S. 3.0.3 due to failure of FWST level channels 1 & 3 following a lightning strike  
 C-03-4711, FWST determined to be operable but degraded based on temperature measurement uncertainties  
 C-02-4127, Upgrades and modifications required to be implemented on the OAC for 2003  
 C-02-6366, Recurring problem with water in the heat trace controller boxes associated with the FWST  
 C-02-6138, Unplanned entry into TS due to 1NSCR5040 (chart recorder for FWST level channel 4) not functioning.  
 C-02-5881, Chart recorder 1NSCR5040 discovered not printing requiring entry into TS  
 C-02-6471, PAM chart recorder 1NSCR5040 is continually resetting  
 C-04-1974, Unexpected entry into TS due to PAM chart recorder 1NSCR5390 broken

C-04-3611, Unit 1 FWST level channel 1 alarm received in control room due to suspected lightning strike

C-04-2970, OAC points associated with compensatory action for FWST temperature were not configured as required

### **Freeze Protection PIPs**

C-03-371, Station Self Assessment of cold weather work requests / work orders during and immediately following the snow storm of January 23, 2003

C-03-3137, Freezing of the McGuire RWST level transmitter lines

C-04-392, Procedural weaknesses in IP/0/B/3560/008; Heat Trace Inspections

C-03-7250, Some YH thermostat boxes are unlocked and found to be set incorrectly per the PT performed to verify operability

C-03-7277, Summary of problems encountered while performing PT/0/B/4700/038, Cold Weather Protection, during the 2003 / 2004 Fall & Winter months

C-04-79, Editorial changes are required to the Operations Cold Weather PT (PT/0/B/4700/038)

C-04-2567, Evaluate rescheduling model work orders for verifying freeze protection is operating properly to cooler ambient conditions

C-02-5286, Freeze Protection program assessment for 2002

C-04-414, Drain holes were apparently drilled in plastic plugs used to seal heat trace controller boxes

C-04-97, Water intrusion in the heat trace controllers located on the FWST missile wall have been a longstanding problem

C-03-2583, Configuration control issue with the Unit 2 FWST heat trace circuit associated with level transmitter #3

C-04-894, The OAC alarm response for wet bulb temperature does not match

C-04-4064, Outstanding procedural enhancements for the freeze protection PT (PT/0/B/4700/038, Cold Weather Protection)

### **Maintenance Documentation**

#### EDGs:

WO 98640557, 98085990, 98226275

#### Refueling Water System:

Modification CNCE-62147

WO 98624856

#### Freeze Protection:

WO 98573322,

Temporary Modification CNTM-0132, CNTM-0133

#### Nuclear Service Water:

WO 98554081, Valve 1RN030A

WO 98554080, Valve 1RN040B

WO 98554077, Valve 2RN030A

WO 98554079, Valve 2RN040B



### **Operating Experience Items**

OEDB Number 04-035581, NRC Information Notice 2004-01, Auxiliary Feedwater Pump Recirculation Line Orifice Fouling  
 OEDB Number 03-034753, NRC Information Notice 2003-19, Unanalyzed Condition of Reactor Coolant Pump Seal Leakoff Line during Postulated Fire Scenarios or Station Blackout  
 OEDB Number 02-0931371, Significant Event at McGuire NS  
 OEDB Number 02-031374, Significant Event at McGuire NS  
 OEDB Number 03-034506, NRC Information Notice 2003-15, Importance of Followup Activities in Resolving Maintenance Issues  
 OEDB Number 03-033337, Violation - NRC Violation w/Civil Penalty, Point Beach  
 PIP M-02-04622, AFW Suction Source Swap to RN  
 PIP C-02-778, Rotork valve temperature limitation  
 OEDP Number 03-033942, NRC Information Notice 2003-008, Potential Flooding Through Unsealed Concrete Floor Cracks  
 PIP C-04-2783, Evaluation of Part 21 regarding failure of charging spring in ABB breakers  
 PIP C-02-601, OE at McGuire on RN suction swap

### **Self- Assessment Documents**

Corrective Action Program Followup Assessment GO-03-036  
 PIP C-04-3520, Apparent cause quality review for Plant Support  
 PIP C-04-3523, Apparent cause assessment for Maintenance and Work Control  
 PIP C-04-3186, Apparent cause assessment for Engineering and Training  
 PIP C-04-2751, Apparent cause review for Operations  
 PIP C-04-3858, Apparent cause review for Plant Support  
 PIP C-03-7159, 3<sup>rd</sup> Quarter 2003 human performance assessment-Engineering  
 PIP C-04-593, Mod Engineering yearly assessment  
 PIP C-03-3475, Corrective action program followup assessment  
 Safety Review Group Monthly Reports dated October, and December, 2003; and January and May, 2004  
 PIP G-03-00042, Operating Experience Program Effectiveness Assessment  
 PIP G-03-00496, Self Assessment GO-03-65, OEAFast Process

### **Miscellaneous Documents**

System Health Reports:  
 Refueling Water for 1<sup>st</sup> trimester of 2004  
 Emergency Diesel Generator for 1<sup>st</sup> trimester of 2004  
 Freeze Protection for 3<sup>rd</sup> trimester of 2003  
 4KV Vital AC for 2<sup>nd</sup> trimester of 2003  
 Nuclear Service Water for 1<sup>st</sup> trimester of 2004  
 Auxiliary Feedwater for 1<sup>st</sup> trimester of 2004  
 Instrument Air for 1<sup>st</sup> trimester of 2004  
 Condenser Circulating Water for 3<sup>rd</sup> trimester, 2003  
 Human performance error rate data, year-to-date July, 2004  
 Five Step Human Performance Plans for Maintenance, Radiation Protection, Chemistry, Training, Work Control, and Engineering

Safety Tagging Improvement Plan

List of Corrective Actions Greater Than 24 Months Old

List of PIPs Greater Than 24 Months Old

Oldest PIP List (earlier than 2000)

Corrective Action Health Reports dated 07/21/2004 and 12/10/2003

Equipment Reliability status report dated August 18, 2004