



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

August 8, 2003

Duke Energy Corporation  
ATTN: Mr. Ronald A. Jones  
Vice President  
Oconee Site  
7800 Rochester Highway  
Seneca, SC 29672

**SUBJECT: OCONEE NUCLEAR STATION - NRC PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT NO. 05000269/2003009,  
05000270/2003009, AND 05000287/2003009**

Dear Mr. Jones:

On July 11, 2003, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station. The enclosed report documents the inspection findings which were discussed on July 10, 2003, with you and other members of your staff.

This inspection was an examination of 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 the conditions of your operating licenses. Within these areas, the inspection involved a selected examination of procedures and representative records, observation of activities, and interviews with personnel.

On the basis of the sample selected for review, there were no findings of significance identified during this inspection. The team concluded that in general, problems were properly identified, evaluated and resolved within the corrective action programs. However, some problems were noted with unclear or incomplete corrective actions, the thoroughness of problem assessment, and categorization of issues which may have affected the resolution of issues in the corrective action program.

DEC

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Sincerely,

**//RA//**

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

Docket Nos. 50-269, 50-270, 50-287  
License Nos. DPR-38, DPR-47, DPR-55

Enclosure: NRC Inspection Report 05000269/2003009, 05000270/2003009, and  
05000287/2003009 w/Attachment: Supplemental Information

DEC

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-269, 50-270, 50-287

License Nos: DPR-38, DPR-47, DPR-55

Report No: 05000269/2003009, 05000270/2003009, 05000287/2003009

Licensee: Duke Energy Corporation

Facility: Oconee Nuclear Station, Units 1, 2, and 3

Location: 7800 Rochester Highway  
Seneca, SC 29672

Dates: June 23, 2003 - July 11, 2003

Inspectors: G. MacDonald, Senior Project Engineer  
K. O'Donohue, Senior Operations Engineer  
A. Hutto, Resident Inspector  
M. Scott, Senior Reactor Inspector

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

Enclosure

## SUMMARY OF ISSUES

IR 05000269/2003-009, 05000270/2003-009, 05000287/2003-009; 06/23/2003 - 07/11/2003; Oconee Nuclear Station, Units 1, 2, and 3; additional baseline inspection of the problem identification and resolution program.

The inspection was conducted by a senior project engineer, a senior operations engineer, a senior reactor inspector, and a resident inspector. No findings of significance were identified. 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 team identified that the licensee was effective at identifying problems and entering them into the corrective action program (CAP) for resolution. The licensee maintained a low threshold for identifying problems as evidenced by the continued large number of Problem Investigation Process reports (PIPs) entered annually into the CAP. The inspector's independent review did not identify significant adverse conditions which were not in the CAP for resolution. Evaluation and prioritization of problems was generally effective; although, one example was noted where an evaluation did not thoroughly examine the potential for generic implications. Corrective actions specified for problems were generally adequate; although, several examples were noted where corrective actions were not complete or not comprehensive. Audits and self-assessments continued to identify issues; however, some examples were noted where the issues were not correctly classified for resolution. Previous non-compliance issues documented as non-cited violations were properly tracked and resolved via the CAP. Personnel at the site felt free to raise safety concerns to management and to resolve issues via the CAP.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution

##### a. Effectiveness of Problem Identification

##### (1) Inspection Scope

The inspectors reviewed Problem Investigation Process reports (PIPs) for issues across the reactor safety cornerstones to determine if problems were being properly identified and entered into the corrective action program (CAP) for resolution. The review was primarily focused on selected systems and plant program improvement initiatives. The systems reviewed included the high pressure injection (HPI) system, the reactor building cooling unit (RBCU) portion of the low pressure service water system, the emergency feedwater (EFW) system, and the standby shutdown facility (SSF). The plant programs reviewed included the Calculation Enhancement Program, the Emergency Operating Procedures (EOP) Initiative, the Time Critical Operator Actions (TCOA) Program, and the Operable But Degraded/Non-Conforming Item (OBD/NCI) Program. For the program reviews, the inspectors focused on determining if the program scopes had been reduced and if problems identified during program implementation were being entered into the CAP for evaluation and resolution.

System health reports, trend reports, open PIPs, work orders, and planned modifications for the systems were reviewed. Plant walkdowns of the accessible portions of the systems were performed to determine if deficiencies existed that had not been entered into the CAP. No walkdown was performed for the RBCUs. The inspectors discussed system status with system engineers and other plant personnel.

Selected audits and self-assessments were reviewed to determine if identified issues were entered into the CAP. Employee concerns issues were reviewed to determine if identified problems were entered into the CAP. CAP status tracking and performance trending data were reviewed to determine if there was any significant change in the rate of PIP generation. The interface between the procedure change process and the CAP was reviewed to determine if PIPs were used for identified procedure problems. Documents reviewed are listed in the Attachment to this report.

##### (2) Assessment

During the system reviews and walkdowns of the accessible portions of the HPI, SSF, and EFW systems, the inspectors found that the system deficiencies were being identified and placed in the CAP and that the system engineers were appropriately tracking and trending these issues. The inspectors did not find any significant conditions adverse to quality during the system walkdowns; however, two items were noted for which PIPs had not been written. The inspectors identified that the flow indicators for the motor driven EFW pump recirculation lines were not reading zero gallons per minute with no flow. Unit 2 was reading approximately 30 gpm while Units 1 and 3 were reading significantly below the zero mark. The inspectors also observed that the level of general housekeeping around the turbine driven EFW pumps was not commensurate with the rest of the system. PIPs were subsequently written for these

two issues. During interviews, the inspectors noted that not all engineers were making walk down of the normally non-accessible portions of their systems a priority during outages, when those portions of the systems could be walked down.

The EOP Initiative effort resulted in a complete rewrite and reformatting of the EOPs for all three units. Implementation of the new revisions took place in December of 2001. The inspectors determined that the EOP Initiative scope was not reduced and that PIPs were initiated for problems which were identified during program implementation. The Calculation Enhancement Program was examined and the inspectors determined that the scope had not been reduced and that PIPs were generated for identified problems. The inspectors reviewed the licensee's program for managing time critical operator actions (TCOA) with respect to its interface with the CAP. The inspectors selected a sample of TCOAs tracked by the program and verified that corrective actions associated with eliminating or minimizing the burden of these TCOAs were captured by PIPs and that these PIPs were appropriately prioritized. The inspectors noted that corrective actions for the most significant TCOAs were being managed appropriately with modifications that were either completed or scheduled for upcoming unit outages. The inspectors reviewed the OBD/NCI program which contained items that are degraded but operable under Generic Letter 91-18 guidance. Many of these were operator actions that required modifications (NSMs) to reduce the operator activities during an accident scenario. Selected EFW and low pressure injection (LPI) OBD/NCIs, status documents, and computer tracking data bases were reviewed and the inspectors determined that PIPs were generated for these NCIs. The inspectors determined that PIPs were used to evaluate the OBD/NCI items with resolution planned via the plant modification process and that most of the modifications had been scheduled for installation. In accordance with procedure Nuclear Station Directive (NSD) 203, Operability, the licensee was reviewing the aggregate NCI list and PIP details after each outage for operational impact.

For the audits and self-assessments reviewed, the inspectors verified that the issues raised during the assessments were entered into the CAP for resolution. The inspectors noted that PIPs were generated for the technical issues sampled from the employee concerns files. CAP performance data and trending was reviewed and the inspectors noted that PIP generation rate had not reduced. As of July 2003, over 5000 PIPs had been generated for this year. Based on review of EOP PIPs, deleted PIPs, and personnel interviews it was not clear that site personnel had a consistent threshold for selecting either a PIP or a Procedure Change Request for resolving procedure problems. The team identified that the licensee was effective at identifying problems and entering them into the CAP for resolution. The licensee maintained a low threshold for identifying problems as evidenced by the continued large number of PIPs entered annually into the CAP. The inspector's independent review did not identify adverse conditions which were not in the CAP for resolution.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors reviewed PIPs in all action category levels (1-4) to determine if the identified problems were properly prioritized in accordance with procedure NSD-208,



Problem Investigation Process. The action categories (1 through 4) were defined in NSD 208 and were numbered based on decreasing significance. Action Category 1 PIPs are significant conditions adverse to quality (CAQs) that required formal root cause evaluations. Action Category 2 PIPs are defined as CAQs for which management could use its discretion in deciding whether to perform a formal root cause evaluation. Action Category 3 PIPs are problems for which an apparent cause analysis is sufficient to correct the immediate problem. Action Category 4 PIPs are low level CAQs or conditions not adverse to quality, neither of which require any type of causal evaluation. The inspectors attended daily status meetings and several PIP screening meetings to observe licensee problem processing and issue categorization.

Selected licensee audits and self-assessments were reviewed to determine if identified issues were correctly classified for resolution in accordance with procedure NSD-607, Self-Assessments. Action Category 1, 2, and 3 PIPs were reviewed to assess the adequacy of the root/apparent cause evaluation of the selected problems. The inspectors reviewed the root/apparent cause evaluations against the description of the problem in the PIP and the guidance in procedure NSD-212, Cause Analysis. Documents reviewed are listed in the Attachment to this report.

(2) Assessment

The inspectors determined that PIPs were generally categorized correctly. The root/apparent cause evaluations for the PIPs reviewed were generally adequate; however, one example (PIP O-02-3709, Reinsertion of alternate boron dilution) was noted which was not thorough and did not appear to consider potential generic aspects of the root cause. PIP O-99-04113 [Licensee Event Report (LER) 50-269/99-07, LP-15 and 16 powered off of non-safety related power] was incorrectly listed as category 3. The license corrected the PIP to Category 1.

PIP O-02-3709 addressed inappropriate use of the alternate boron dilution flowpath during response to small break loss of coolant accident (LOCA), LER 50-269/02-04, Potential loss of Safety Function Due to Inadequate Design Documentation and Procedure Change. The small break LOCA EOP had been previously revised to delete the use of the alternate dilution flowpath; the large break LOCA procedure was unaffected. When the EOP two column rewrite initiative revised the two LOCA procedures, the procedures were combined and the use of the alternate boron dilution flowpath was incorrectly re-introduced. PIP O-02-3709 evaluation indicated that the error was an isolated instance in the EOP initiative, but did not provide a basis for this conclusion. The evaluation did not thoroughly explore the failure of the review and validation effort to identify the error or describe any assessment of the potential extent of the condition to assess generic implications for the error. The PIP corrective actions included the development of an EOP step bases document which would provide validation of all EOP procedure steps. The LER did not identify this as a corrective action. The lack of thoroughness of the EOP procedure error evaluation was mitigated by the fact that the proposed PIP corrective actions would address generic concerns. The enforcement aspects of this issue will be addressed in a subsequent Inspection report with the dispositioning of LER 50-269/02-04.

Audits and self-assessments generally categorized identified issues correctly; however, several examples of incorrect assessment item categorization were noted. PIPs O-02-1260 and O-02-1470 classified incorrect peer check performance issues as areas for improvement. The inspectors determined that the peer checks were not performed as described in procedure OMP 1-02, Rules of Practice. Incorrect peer checks should have been classified as deviations per the definition found in procedure NSD 607 Self-Assessments. Two assessments for the OBD/NCI program were reviewed in which the licensee had assessed the aggregate effect of the NCIs but did not determine the cumulative risk of the NCIs. Several daily status meetings and PIP screening meetings were observed and the inspectors noted that problem categorization and prioritization met procedure requirements. The team determined that evaluation and prioritization of problems was generally effective; although, one example was noted where an evaluation did not thoroughly examine the potential for generic implications. Audits and self-assessments continued to identify issues; however, some examples were noted where the issues were not correctly classified for resolution.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed PIPs to assess the adequacy of the corrective actions applied to the adverse conditions documented in the PIP. The sample selected included PIPs related to the systems and program initiatives reviewed in report section 4OA2.a.(1), PIPs related to issues documented in NRC Inspection Reports, and a sampling of the oldest PIPs. The review focused on whether the identified corrective actions were appropriate to the problem description and the root/apparent cause evaluation. For the review of the oldest PIPs, the inspectors focused on verification that there was a valid basis for the delay in correcting the identified problems. Individual corrective actions were sampled for verification that actions had been satisfactorily completed.

The CAP allowed individual corrective action closure within the PIP and transfer of the corrective action to the work control process, the modification process, and recently to the procedure revision process. This was only allowed for routine corrective actions and not for corrective action to prevent recurrence. The inspectors selected items for which PIP corrective action closeout to other processes had occurred to verify that the actions were completed or still being tracked for completion in the other systems. A sampling of deleted PIPs were reviewed to assess the basis for the deletion and if deletion was appropriate for the issue. Documents reviewed are listed in the Attachment to this report.

(2) Assessment

The inspectors determined that corrective actions specified for identified problems reviewed were generally adequate with several examples noted where corrective actions were not complete or not comprehensive. The first example was PIP O-00-2045 where corrective actions were signed off as completed when all actions had not been accomplished. The specific corrective action included preparing job performance measures (JPMs) for operator training. However, the licensee was unable to verify that the JPMs were developed. The inspectors determined that the lack of these specific

JPMs was not significant and would not have prevented the operators from adequately performing required tasks. Additional training mechanisms were available to address these actions.

The second example was PIP O-01-626, where the corrective action specified was not comprehensive. This was an OBD/NCI PIP regarding use of alternate source term for post accident dose calculations. Errors were noted in the PIP regarding steam generator tube rupture (SGTR) related doses to operators. The PIP was revised to address the SGTR dose error and additional details were added to the PIP in response to inspector questions to explain how existing proceduralized dose controls would prevent overexposure when performing post accident manual actions. One example was noted (PIP O-93-677) where delay in the corrective action implementation for a modification was due to misunderstanding of which group was performing the unresolved safety question determination.

As part of the assessment of corrective action adequacy, the inspectors reviewed a sampling of deleted PIPs. Most of the deletions were due to duplicate PIPs. PIP O-02-2350 was incorrectly deleted. There was no safety significance to this issue and the PIP was re-opened. Several other PIPs were noted which did not contain an adequate basis for deletion; however, the inspectors were able to verify that the deletions were appropriate.

A sampling of deleted modifications was reviewed to determine if any PIP related modifications had been deleted and none were identified. Corrective actions for seven PIPs which had been closed out to modifications were reviewed and the inspectors verified that the modifications had been completed or were still scheduled. One example of corrective action being closed to the procedure change process was reviewed with no problems noted. Seven PIP corrective action items which had been closed out to the work request (WR)/work order (WO) process were reviewed and the inspectors noted that all WRs/WOs had been completed. The inspectors noted that several of the WRs/WOs reviewed did not have the PIP number identified in the WR/WO. This lack of PIP numbers in the WRs/WOs for PIP corrective actions closed out to the work control process was also identified by the licensee's corrective action self-assessment.

The inspectors reviewed the licensee's corrective action program tracking and noted that the current routine corrective action backlog was high and the timeliness of routine corrective actions was not meeting expectations. Action plans had been developed to address these aspects. Corrective actions to prevent recurrence (CAPR) backlog had previously been worked down. The inspectors noted that the licensee still maintains the process of closing non-CAPR corrective actions out by transfer to other site programs (procedure change, work control, and modification processes) without verification that the actions are completed. This practice masks the real corrective action backlog and provides less oversight of the issue than if the item had remained within the CAP and been tracked to resolution. Corrective actions specified for problems were generally adequate; although, several examples were noted where corrective actions were not complete or not comprehensive. Previous non-compliance issues documented as non-cited violations were properly tracked and resolved via the CAP.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

The inspectors interviewed site personnel regarding utilization of the CAP for problem resolution to determine if a safety-conscious work environment existed at Oconee Nuclear Station (ONS). Concerns resolution program files were also reviewed to determine if identified issues were entered into the CAP for resolution.

(2) Assessment

The inspectors interviewed various levels of personnel from site departments that perform regulated activities including the Oconee concerns resolution program manager regarding the use of the CAP for problem resolution. No reluctance to identify safety concerns was noted, and all interviewed personnel felt free to initiate PIPs into the CAP for resolution of problems. Concerns resolution files for 2002 and 2003 were sampled and the inspectors determined that when concerns were substantiated and technical issues were identified, PIPs were initiated for resolution. The inspectors concluded that a safety-conscious work environment was maintained at ONS.

4OA6 Meetings, Including Exit

On July 10, 2003, the inspectors presented the inspection results to Mr. Ron Jones, Site Vice President, and other members of his staff. The inspectors confirmed that proprietary information was not provided or examined during this inspection.

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee Personnel

R. Jones, Site Vice President  
B. Hamilton, Station Manager  
S. Batson, MCE Engineering Manager  
T. Curtis, RES Engineering Manager  
L. Nicholson, Regulatory Compliance Manager  
M. Ramey, Maintenance Manager  
P. Stovall, SRG Manager  
E. Burchfield, DBG Engineering Supervisor  
N. Clarkson, Regulatory Compliance Senior Engineer  
H. Dummeyer, Corrective Action Group Engineer  
R. Matheson, Corrective Action Lead Engineer  
J. Weast, Regulatory Compliance Engineer  
J. Smith, Regulatory Compliance Technician

#### NRC Personnel

R. Haag, Branch Chief, Division of Reactor Projects (DRP) Region II (RII)  
E. Riggs, Resident Inspector, RII  
M. Shannon, Senior Resident Inspector, RII

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

#### Opened

NONE

#### Opened and Closed

NONE

#### Closed

NONE

#### Discussed

50-269/02-04

LER

Potential Loss of Safety Function Due to Inadequate Design Documentation and Procedure Change

## LIST OF DOCUMENTS REVIEWED

### Procedures

Nuclear Station Directive (NSD) 203, Operability  
 NSD 204, Operating Experience Program (OEP) Description  
 NSD 208, Problem Investigation Process  
 NSD 210 Corrective Action Program Directive  
 NSD 212 Cause Analysis  
 NSD 223 Trending of PIP Data  
 NSD 602 Employee Concerns  
 NSD 607, Self Assessment  
 Work Process Manual Section 401, Problem Communication Guidelines  
 EP/1/A/1800/001 D, EOP - Loss of Subcooling Margin  
 EP/1/1800/001 L, EOP - Rules and Appendix  
 EP/1/1800/001 I, EOP - LOCA Cooldown  
 OMP 1-18, Implementation Standard During Abnormal and Emergency Events

### Assessment PIPs

O-03-00962, SGRH Self Assessment  
 O-02-03505, Level II Assessment - Effectiveness of Tornado White Finding Corrective Actions  
 O-03-01161, Operations PIP Corrective Actions Effectiveness Assessment  
 O-02-01061, Management Observations, Operations Activities  
 O-02-01219, HPI Post Job Critique Observation  
 O-02-1229, Human Performance Assessment, Level 2  
 O-02-01470, Procedure Use Assessment, Level 2  
 O-02-01519, Engineering Walkdown Assessment, Level 2  
 O-02-01592, Work Control Quality Performance Assessment  
 O-02-03243, Management Observation of Control Room Activities  
 O-03-00583, Management Observation of NEO Activities  
 O-03-02490, Management Observation of EOP Training For Engineers  
 O-02-03083, Management Observation of Operations Plant Task  
 O-02-02414, 50 NCIs reviewed with respect to impact on operational burden  
 O-03-01267, 51 NCI reviewed with respect to impact on operational burden  
 O-02-01260, Operations Self-Assessment

### Reactor Building Cooling PIPs

O-03-1955, Develop Contingency Plan For Leaking Coils  
 O-02- 6321, Unit 2 Coil Leaks  
 O-02-5567, Coil Tube Erosion  
 O-02-1434, 1C RBCU Motor Failure  
 O-01-3368, New OAC Monitoring Point  
 O-99-5041, MARF For Permanent Monitoring Instrumentation On RBCS

High Pressure Injection PIPs

- O-03-1193, 3HP-7 Continuous Drift
- O-03-2007, 2B HPI Pump High Vibration
- O-02-2972, Failure Of Cable Connector From ASWP Switchgear To The 3A/3B HPI Pump
- O-01-4797, 3HP-241 Seat Leak
- O-01-2212, 3HP-120 Packing Failure
- O-01-1258, Inadvertent Loss Of Power To Several CS Valves (MRFF)
- O-00-2271, Classification of 1/2/3 HP-14 Classified As MR A(1)
- O-00-3633, Replacement Of HP-15 Batch Controller Flow Meter (each unit)

EOP Related PIPs

- O-98-04512, No calculation for operation of the BS system following a LOCA
- O-02-03785, Request for thorough review of EOPs for deletion of Alternate Boron Dilution path
- O-02-01076, Electric power for portable gas analyzers required during response to SBO
- O-02-06244, Wording for containment integrity confusing in EOPs
- O-02-04661, RCP trip guidance should not be the same for all 3 units (unit 2)
- O-02-04662, RCP trip guidance should not be the same for all 3 units (unit 3)
- O-02-04371, Incorrect locations for valves 1C-168, and 3C-357
- O-02-03709, Inappropriate reinsertion for use of alternate dilution flowpath during response to small break LOCA
- O-03-00252, EOP failed to address potential misalignment during recirc phase (1LP-21)

Operable But Degraded Non-Conforming Item PIPs

- O-99-03123, There appears to a possible problem with AP-7
- O-99-04113, LER 269/99-07, LP-15 and 16 is powered off of non-safety related power  
Comment - category level was incorrect - inspector pointed out the oversight (LER generated) and license corrected the PIP
- O-01-00626, EOP review against NUREG-0737 calculations reveals that operator actions outside of the control room during accident conditions may cause operator to receive dose higher than limits of the NUREG
- O-99-03863, While reviewing licensing documentation on ECCS system in preparation for the planned revision to the EOP, a discrepancy in the DBD for the operation LP-9 and 10 was discovered.
- O-99-03909, LER 269/99-01, Single Failure Study of Emergency Feedwater System (corrective action (CA) 1, 2, 5, and 40 and PIP 99-3123, CA# 6)

Additional PIPs:

- O-00-02045, Time critical operator actions that were omitted from the qualification program for operators
- O-00-02227, Spent fuel pool ventilation fan operation during evacuation of SFP
- O-99-04544, EOP hard copy availability
- O-98-04512, NPSH for RB spray pump may be inadequate under certain plant conditions
- O-00-00429, Time critical action no longer included as OMP Operator Memory Item
- O-00-01212, No safety review for Att. A, of OMP 1-8 for category 1 items
- O-00-01850, Need clarification of terminology; when / then
- O-00-02150, Operator Experience from IP2 SGTR
- O-00-00315, Inadequate procedure and inadequate procedure control
- O-00-03912, RCP trip criteria for failed seal indication needs clarification
- O-00-02465, EFW DBD incorrectly states FDW-313 and FDW-314 are active

- O-98-04512, BS Pump NPSH has not been analyzed for injection mode
- O-98-04124, The EFW Pumps have no automatic runout protection
- O-99-03123, Potential Problems with AP-7 and its use during a LOCA
- O-01-03379, Problems Establishing EFW following a MSLB with a LOOP
- O-00-01032, Calculation Open Items
- O-03-0246, Revisions to Keowee frequency limits calculations
- O-02-02785, Evaluate changes to eliminate/improve margin for throttling LPI flow
- O-00-04643, LER 270/00-02, "A" chiller tripped during Unit 2 PT/1/A/0251/023 and could not be restarted. "B" chiller also failed to initially operate, Technical Specification 3.03 entered.
- O-02-06118, LER 270/02-03, During 3 times normal operating pressure test, OTSG tube ruptured while in refueling inspection and test
- O-02-00826, Code requirement to perform VT-1 examination by end of January was incorrectly moved from innage to next outage thus bypassing established date
- O-02-07368, Technical Specification surveillance 3.3.19.1, Channel Function test for Degraded Grid Voltage Protection Actuation Logic Channels, and SR 3.8.1.15, 230 KV Circuit Breaker Actuation on Switchyard Isolation were not satisfied. Additionally, TS 5.5.18, KHU Commercial; Power Generation Testing Program, was not satisfied.
- O-02-00826, Code requirement to perform VT-1 examination of body to bonnet joint on valve 2BS-17 was incorrectly moved from innage to next outage.
- O-01-1402, 1B MDEFW Pump outboard bearing temperature exceeded acceptable temperature limits during testing
- O-02-03498, Unit 3 TDEFW in operation for training purposes with SSF out of service
- O-98-1083, Control room habitability calc. Does not consider CRVS in-leakage
- O-02-5815, FME found in unit 2 UST
- O-03-1132, Anderson Greenwood relief valves not identified on replacement list for upcoming outage
- O-03-327, Shutdown bypass bistable out of calibration
- O-03-1070, Evaluation of potential pressure locking of LP-15 and LP-16 replacement valves
- O-03-316, Reduced cooling water flow to TDEFW Pumps while shutdown
- O-02-1762, Non-Destructive Testing (PT) performed on wrong weld
- O-02-3225, Pin-hole leak in weld of 1FDW 355
- O-00-3229, Keowee voltage/frequency overshoot do not meet TS requirements
- O-00-783, Keowee surveillance does not clearly define voltage and frequency response time requirements
- O-02-4279, B3T and B4T switchgear heaters will be moved via modification
- O-01-1012, Breaker B3T failed to meet minimum closure voltage and breaker B4T failed to meet trip time test due to hardened grease
- O-00-546, SSF EOP does not provide directions for stopping SSF RCMU pump if suction valves are closed
- O-03-1671, SSF RCMU pumps not loaded to diesel generator during 24 hour loaded run
- O-03-1155, SSF DG tripped from full load on vibraswitch #1 during monthly PM
- O-03-1226, SSF DG field didn't flash at 900 RPM when auto manual switch in auto
- O-01-811, Low SSF diesel engine jacket water discharge pressure limit
- O-01-816, DG in maintenance mode received low lube oil pressure trip alarm for B engine caused shutdown and engine unexpectedly restarted
- O-01-789, SSF EDG emergency stop did not operate in maintenance start mode
- O-01-785, SSF D/G shutdown required during maintenance run due to low jacket water pressure alarm but DG did not shutdown properly
- O-03-1183, SSF inverter KSF-2 is experiencing output current transients



- O-99-4655, Discrepancy discovered between Unit 2 BTO-4A restoration and ASW pump test procedures as to normal position of station ASW pump breaker
- O-99-3626, EOP main fuel oil storage tank and fuel oil day tank limits not consistent
- O-99-4246, The OFDs do not include temperature and pressure data for the LPI piping
- O-99-4799, Leads on 2LP-17 and 2LP-18 were taped in violation of SI/O/A/5120/001
- O-97-0380, Investigate the possibility of anti-sweat piping insulation in reactor buildings becoming displaced by HELBs and clogging sump screens
- O-01-00024, Small bore carbon steel piping at ONS experiencing various levels of corrosion
- O-02-1336, KHU-1 generator upper arm brackets loose
- O-02-1245, Chain binds in chain wheel operator for 1LP-40
- O-02-1347, Personnel built scaffold to access DW55 not per programmatic guidelines
- O-02-1493, 1B RBCU secured and discharge damper remained in the open position
- O-03-959, 3HPSW-61 alarm bypass valve is hard to operate and would not fully close
- O-03-2396, Evidence of bolted closure leakage around 3B OTSG lower primary handhole and lower secondary manway
- O-03-3363, 3HP-116 local position indication does not match remote indication
- O-97-00311, Generic Letter 96-06, effect of potential water hammers on LPI piping (unit 3)
- O-97-00310, Generic Letter 96-06, effect of potential water hammers on LPI piping (Unit 1)
- O-97-00240, Generic Letter 96-06, operability update for LPI
- O-97-00279, Generic Letter 96-06, overpressurization in piping due to heat up of trapped water (LPI)
- O-98-02552, LTOP system may not be single failure proof, operability issue
- O-98-00707, LER/98-04, BWST Level Transmitters calibrated to incorrect level
- O-95-00010, Licensing communications left several containment isolation valves out of type C testing. Valves pairs had no vent nor drain point to complete testing.
- O-98-4850, Missed Tech. Spec. surveillance on Unit 1 QA-1 Snubber
- O-98-1323, Appendix R issues with LP-1 and LP-2 and CF-1 and CF-2
- O-94-678, Class C piping that is exposed to primary fluid needs upgrading to class B
- O-98-2014, Replace Class C valves in LWD system with Class B Valves
- O-93-0677, Unit 1 trip due to loss 1DIA power panel
- O-03-4193, 1, 2, 3 FDW PG-159 MDEFW Recirc Flow Gauge reading abnormal
- O-03-4199, Housekeeping around TDEFW pumps

Deleted PIPs

O-02-4618, Procedure PT/3/A/0152/012 and PT/2/A/0152/012 Low Pressure Injection System valve stroke test placed on technical hold  
 O-02-4656, Procedure PT/2/A/0160/002 Reactor Building Cooling Unit air flow test placed on Technical Hold  
 O-02-5434, Procedures used during outage not up to Operations standards  
 O-03-1838, Security unable to sign in to the Safety Tagging II Program  
 O-02-5381, 2RC-51 leakage  
 O-02-2350, Investigate and implement where possible changes to the ONS DMR tool  
 O-02-2385, GO-02-26 Assessment of aspects of SSF inoperability due to pressurizer ambient heat loss  
 O-02-3500, Software modification and implementation change form not filled out 7 days prior to work completion  
 O-02-1157, Grease in Unit 1 West tendon gallery

Other Documents

FSAR Chapter 10, Section 10.4.7, Emergency Feedwater System  
 OSC-2479, Pull Out Force for FW 315 and 316, Revision 1  
 NRC Letter to Duke Power, Mr. William R. McCollum, Jr., dated June 11, 2002, Subject: Oconee Nuclear Station, Units 1, 2, and 3 RE: Issuance of Amendments (TAC Nos. MA9294, MA9295, and MA9296)  
 Duke Power Company, Oconee Nuclear Power Station Preliminary Scope Document, NSM ON-X2992, Emergency Feedwater Flow Control Upgrade, Revision 1 Mod Activation Request Form, PIP Number O-00-3909, Revision 0, EFW Flow Control  
 EFW System Health Report  
 RBCU System Health Report  
 HPI System Health Report  
 SSF System Health Report  
 ONS Emergency Power and ESF Test Report, April 30, 1997  
 Modification ONOE-16397, Replace flow switch 1LPIFS0001 and LPIFS0002  
 Modification ONOE-12655, Revise EQMM for Rotork and Limitorque actuators  
 Modification ONOE-16806, Raw water piping replace - RCP motor cooler

Work Requests/Work Orders

WO 98267814  
 WO 98267816  
 WR 98226333  
 WO 98472776  
 WR 98226987  
 WR 98276925  
 WR 98276926  
 WR 98279715