

November 26, 2004

Mr. Christopher M. Crane  
President and Chief Nuclear Officer  
Exelon Nuclear  
Exelon Generation Company, LLC  
Quad Cities Nuclear Power Station  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2  
PROBLEM IDENTIFICATION AND RESOLUTION REPORT 05000254/2004011;  
05000265/2004011

Dear Mr. Crane:

On October 29, 2004, the U.S. Nuclear Regulatory Commission (NRC) completed a team inspection at the Quad Cities Nuclear Power Station. The enclosed report documents the inspection results which were discussed on October 29, 2004, with you and members of your staff.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations and with the conditions of your operating license. Within these areas, the inspection involved selected examination of procedures and representative records, observations of activities, and interviews with personnel. No findings were identified.

On the basis of the sample selected for review, the team concluded that in general, problems were being properly identified, evaluated, and corrected. While no findings were identified during the inspection, the team had several observations regarding the effectiveness of corrective action program implementation as detailed in the enclosed report.

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

C. Crane

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Sincerely,

**/RA/**

Mark A. Ring, Chief  
Branch 1  
Division of Reactor Projects

Docket Nos. 50-254; 50-265  
License Nos. DPR-29; DPR-30

Enclosure: Inspection Report 05000254/2004011; 05000265/2004011  
w/Attachment: Supplemental Information

cc w/encl: Site Vice President - Quad Cities Nuclear Power Station  
Plant Manager - Quad Cities Nuclear Power Station  
Regulatory Assurance Manager - Quad Cities Nuclear Power Station  
Chief Operating Officer  
Senior Vice President - Nuclear Services  
Senior Vice President - Mid-West Regional  
Operating Group  
Vice President - Mid-West Operations Support  
Vice President - Licensing and Regulatory Affairs  
Director Licensing - Mid-West Regional  
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-254; 50-265  
License Nos: DPR-29; DPR-30

Report No: 05000254/2004011; 05000265/2004011

Licensee: Exelon Nuclear

Facility: Quad Cities Nuclear Power Station, Units 1 and 2

Location: 22710 206th Avenue North  
Cordova, IL 61242

Dates: October 18 through 29, 2004

Inspectors: G. Wright, Team Lead  
K. Stoedter, Senior Resident Inspector, Quad Cities  
C. Brown, Resident Inspector, Clinton  
R. Ganser, IEMA, Quad Cities

Approved by: M. Ring, Chief  
Branch 1  
Division of Reactor Projects

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## **SUMMARY OF FINDINGS**

IR 05000254/2004011, 05000265/2004011; 10/18/2004 - 10/29/2004; Quad Cities Nuclear Power Station, Units 1 & 2; Problem Identification and Resolution Inspection

The inspection was conducted by one region-based inspector, two resident inspectors and an inspector from the Illinois Emergency Management Agency. No findings of significance were identified.

### **Identification and Resolution of Problems**

In general, the licensee identified issues and entered them into the corrective action process at an appropriate level. Nuclear Oversight (NOS) assessment reports identified issues for the licensee to resolve, including issues with corrective action follow through and effectiveness. The majority of issues reviewed were properly categorized and evaluated. In general, corrective actions reviewed were appropriately implemented and appeared to have been effective. While no findings were identified during the inspection, the team developed a number of observations.

The team observed that many condition reports or issue reports were narrowly focused. Documentation was often weak, resulting in lack of ties between problem statements and corrective actions. The weak documentation also contributed to a lack of clarity on how the licensee arrived at corrective actions. Condition reports and assessments addressing maintenance rework or inadequate/ineffective corrective actions, did not routinely evaluate why the responsible organization had put ineffective actions in place. The team also observed that the threshold for identifying deficiencies on non-safety related systems may not be consistent with the system's contribution to the site's overall risk profile.

## **REPORT DETAILS**

### **4. OTHER ACTIVITIES (OA)**

#### **4OA2 Problem Identification and Resolution**

##### **.1 Effectiveness of Problem Identification**

###### **a. Inspection Scope**

The team reviewed selected documents generated over the past 2 years including: NRC inspection report findings, selected plant corrective action documents, and trend assessments to determine if problems were being identified at the proper threshold and entered into the corrective action process. The team also conducted a focused plant walkdown of the turbine building closed cooling water (TBCCW) system to ensure that equipment problems were entered into the corrective action system. The TBCCW system was selected due to its high risk significance. The walkdown represented one semiannual sample. The corrective action documents used during the reviews are listed in Attachment 1 and were selected from the following areas:

- 1) Human performance
- 2) Inadequate corrective actions
- 3) Rework
- 4) Operator workarounds
- 5) Operability evaluations
- 6) Configuration control
- 7) Operating experience
- 8) Root cause assessments
- 9) Common cause assessments
- 10) Apparent cause assessments
- 11) Issues generated during the last three refueling outages for each unit.

###### **b. Observations**

In general, the licensee identified issues and entered them into the corrective action program (CAP) at an appropriate level. The licensee appropriately used the CAP to document instances where previous corrective actions were ineffective or inappropriate. The team conducted a detailed walkdown of selected portions of the TBCCW system to assess the licensee identification and documentation of degraded conditions within the corrective action program.

###### **b.1 Turbine Building Closed Cooling Water (TBCCW) System Walk Down**

The team verified that major equipment issues identified in the system walk down, such as malfunctioning valves and pump leakage, were addressed within the licensee's corrective action program. However, the team identified a relatively high number of system material deficiencies that were not identified by the licensee. These included

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numerous improperly secured piping supports, corrosion on system components and valves, and improper labels on air compressors. This indicated that the threshold for identifying deficient conditions was not as low as that given to a safety-related system with equal or lower risk significance. Subsequent to the walk down, the system engineer submitted issue reports (IRs) to address the team's concerns. The licensee initiated extent of condition walk downs to identify similar conditions and initiate the necessary corrective action.

## b.2 Identification Threshold

From December 2002 until July 2004, the licensee's CAP allowed conditions adverse to quality to be documented in condition reports or maintenance work requests. In July 2004, the licensee implemented a new CAP which instituted the use of issue reports to document items adverse to quality or in need of repair. With the change, all activities are entered into the system as IRs. The IRs are reviewed daily by a team consisting of managers from the major departments. The licensee's review team, with input from the various organizations, determines which course the item will take (e.g., event report, work request). The number of condition reports in the previous CAP appeared to be appropriate for a dual unit site. The number of issues being generated in the new CAP has not stabilized; about 950 items were generated in September. The team's review of CRs generated under the previous program and a small sample of items from the current system, indicated that an adequate threshold had been established for documenting issues and an appropriate prioritization system had been used.

While the licensee appeared to appropriately identify most issues, the TBCCW walkdown identified a number of deficiencies. The individual deficiencies did not directly affect the operation of the system; however, they did indicate that the licensee's threshold for identifying and documenting deficiencies on the system may not be consistent with the systems risk importance. For example, the inspector identified a number of deficiencies with pipe supports, (e.g., lock nuts missing and loose fasteners).

In following up on the team's findings, a system engineer identified that responsibility for pipe supports had changed from a designated individual for all systems to each system engineer. The change was brought about by the elimination of the pipe support specialist position at the site.

## b.3 Operating Experience

The team reviewed a sampling of industry operating experience (OPEX) reports and concluded that the licensee was appropriately including OPEX items in the corrective action program. The team identified one example where the licensee's corporate OPEX coordinator had not sent General Electric Service Information Letter (SIL) 448, Revision 2, to the site for review. The team reviewed the SIL revision and concluded that the information in the SIL had no impact on the current operation of equipment at Quad Cities. The licensee initiated IR 266809 to document the oversight by the corporate OPEX coordinator.

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b.4 Identification of Issues Associated with Inadequate/Ineffective Corrective Actions or Maintenance Rework

The team reviewed a sample of IRs and CRs written for inadequate or ineffective corrective actions. In general, the licensee adequately addressed the technical issue, (i.e., the issue which had not been corrected by the original corrective action). However, in almost none of the cases did the licensee address why it had not corrected the problem the first time.

- CR 216467 “Ineffective ACE & ACIT Closure Problems”: The CR appropriately addressed the specific issues addressed by the ACE (Apparent Cause Evaluation). The CR did not address why the organization developed an ineffective ACE. Additional discussions with the licensee identified they had assessed the cause of the problem and taken actions; however, none of that information had been included in the CR evaluation.

.2 Prioritization and Evaluation of Issues

a. Inspection Scope

The team conducted an independent assessment of the prioritization and evaluation of selected CRs generated after the 2002 problem identification and resolution inspection. The assessment included a review of the category assigned, the operability and reportability determinations, the extent of condition evaluations, the cause investigations, and the appropriateness of assigned corrective actions. Other attributes reviewed by the team included the quality of the licensee’s condition trending and the corresponding corrective actions. In addition, one member of the team attended a management meeting to observe the licensee’s assessment of IRs. This review included the controlling procedures and selected records of activities. In addition, the team conducted interviews with cognizant licensee personnel.

The team reviewed previous NRC inspection reports and associated corrective action documents to verify that identified issues were appropriately characterized and entered into the CAP.

The team likewise reviewed the licensee’s efforts to capture industry operating experience (OPEX) issues in the CAP. Documents reviewed included the licensee’s assessment of industry operating event reports, NRC, and vendor generic notices.

b. Observations

The team verified that, in general, issues reviewed through the CR/IR process were properly categorized and evaluated. However, the team had several observations regarding the quality of the evaluations as follows:

b.1 Overview of Prioritization and Evaluation Process

The team identified several items where narrowly focused assessments missed opportunities to identify broader causes and to determine complete corrective actions for specified causes. For example:

- CR 138696; “Low Pressure Coolant Injection Inoperable due to Failure to Reset Isolation Logic Following Surveillance Testing,” dated January 9, 2003. This condition report was written when operations personnel discovered a residual heat removal valve which did not operate as expected during testing. The licensee determined that the valve did not operate as expected due to the presence of a Group II containment isolation signal which had not been reset during surveillance testing conducted on December 18, 2002. The failure to reset the containment isolation logic was caused by an inadequate procedural development and review process which did not ensure that a step to reset the logic was placed in the procedure before the procedure was issued for use. The corrective actions to prevent recurrence included reviewing the other logic tests to identify any similar discrepancies, revising any deficient procedures, and revising the applicable surveillance procedures to include visual verification that the logic had been reset. However, the corrective actions to prevent recurrence did not address the deficient procedural development and review process.
- CR 154716; “Valve 2-1001-43A will not Open from the Control Room,” dated April 24, 2003, and CR 169407; “Troubleshooting of Valve 2-1001-43A Should Have Been Better Documented,” dated July 29, 2003. Condition Report 154716 was initiated when shutdown cooling suction valve 2-1001-43A could not be opened from the control room. The team reviewed this condition report and identified several examples where the licensee had failed to follow procedure (see the Non-Cited Violation documented in Inspection Report 50-254/2003009; 50-265/203009). These failures resulted in several human performance issues including failing to initiate a work request when required, performance of troubleshooting activities before developing a formal troubleshooting plan, use of repetitive cycling to resolve equipment deficiencies, and using equipment cycling results as a basis for continued operability. In addition, the team identified that even though CR 154716 had received numerous supervisory reviews, no one had recognized that the root cause of the valve’s failure to stroke had not been addressed. The team reviewed the licensee’s corrective actions for this issue and found that the actions were very narrowly focused. Specifically, the licensee addressed the deficiencies in the work request and troubleshooting plan initiation by conducting additional training. However, none of the other deficiencies documented in the inspection report were addressed.
- CR 130676, “1B Fuel Pool Pump Failure to Start.” The CR documented a problem where a fuel pool pump failed to start. An associated work request (WR) identified that the pump had not been properly wired. The WR & CR resulted in the wiring being corrected; however, it did not address why the pump

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wasn't tested after the activities which had resulted in the errant wiring. IR 266075 was written to follow up on this issue.

- CR 166557, "HPCI MO 2-2301-03 valve possible leak by." The CR identified that a high pressure coolant injection (HPCI ) steam valve was leaking into the HPCI room sump. The evaluation of possible leakpaths through the valve documented on the CR was very good . The CR stated that the sump high level alarms were coming in once to twice per day; however, no further evaluation was performed. In response to the team's questions, the licensee determined that the normal frequency of the alarm was once every 3 to 4 days, this indicated that the operators missed an opportunity to identify the leakage 2 to 3 days earlier. The operators did verify that the alarm cleared within an appropriate amount of time, but did not send anyone to investigate the situation. The HPCI steam valve has had a history of leakage which may have desensitized the operators to the alarm.
  
- IR 143666, "White residue found at 480V MCCs aux contacts." The IR documented potential dried grease on CR105X auxiliary contacts. The extent of condition investigation found similar white powdery residue on 22 additional auxiliary contact assemblies. Appropriate actions were taken to correct the identified conditions and a preventive maintenance activity to grease the auxiliary contact assemblies was established. However, the team noted that the periodicity of the preventive maintenance activity was 6 years when one of the auxiliary contact assemblies (CR-143005, ECCS Keep Fill Pump motor unexpectedly shut off) had failed after only 4 years of operation. When the team questioned the appropriateness of the 6 year periodicity, the licensee stated that the period was in accordance with industry guidance for critical breakers and that the dried powder was a precursor to dried grease and did not indicate that binding was imminent. The licensee also noted that the corrective actions were being monitored under the licensee's SHIP [system health indicator program] actions. The licensee did not directly address the failure of the one breaker in evaluating its surveillance periodicity.
  
- CR 132397, "Failed Time Delay Relay." On April 5, 2001, the under voltage permissive time delay relay for the emergency diesel generator loading onto 4kV Bus 24-1 failed routine bench calibration check following removal from its installed location. The calibration check was performed to confirm proper relay timing and operation before operations surveillance QCOS 6500-10. The team reviewed the operability evaluation for CR 132397 and the root cause report, CR Q2001-01049, for the cause of the relay failure. The team found the root cause investigation to be very comprehensive. The documentation detailed an excellent case for an improper solder joint which allowed slight wire movement causing electrical discontinuity as the failure mechanism. However, the operability evaluation for CR 132397 was not as thorough.

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The operability evaluation appeared to default to the possibility that removing the relay for bench testing caused the relay coil wire to be moved, resulting in the relay's failure. While the team concluded that the licensee's assessment was plausible, the team was unable to identify where the licensee had considered and investigated other possibilities (e.g., work in the cabinet during routine system maintenance activities, that could have caused the relay to fail). The lack of a thorough assessment of alternative causes for the relay's failure, reduced the team's confidence that the relay had been operable prior to its removal from the circuit. Despite the lack of a convincing case that the relay had not failed while in-service, the team could not positively conclude that the operability evaluation was incorrect -- only that it was based on weak logic and a possible scenario for the time of failure. The team noted that the relay was replaced immediately after it was discovered to be failed and the operability surveillance test successfully completed.

The team also identified an oversight in the licensee's evaluation process for addressing items identified by the NRC as Non-Cited Violations. The NRC's Enforcement Manual indicates that a Severity Level IV violation can be dispositioned as a Non-Cited Violation as long as the licensee has placed the violation into their corrective action program to address recurrence. The Enforcement Manual also states for Non-Cited Violations: "At the time a violation is closed in an inspection report, the licensee may not have...begun the process to identify the root cause and develop action to prevent recurrence." The team identified that the licensee's corrective actions for Non-Cited Violations were generally appropriate. However, the licensee's CAP procedure does not include steps to ensure that the root cause of each Non-Cited Violation was identified and that corrective actions to prevent recurrence were implemented. The licensee initiated IR 268389 to address this oversight.

## b.2 Trending Program

The team reviewed how the licensee's trending activities, noted below, interfaced with the CAP

- Component Maintenance Optimization
- Corrective Maintenance Unexpected
- Maintenance Rule
- Equipment Reliability
- System Health Indicator Program
- Component Health Indicator Program
- Instrument Trending

The team also observed use of the engineering work station program used by system engineering to monitor system performance. The Engineering Work Station program gathered information from a number of sources including the plant computer and non-licensed operator rounds for evaluation by the system engineer. The system also allowed the engineer to input values or formulas with provisions for notifying the engineer when the specified conditions have been met or exceeded. This feature

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allowed for almost real-time monitoring of system parameters. The program also allowed the engineers at all Exelon sites to share information with their counterparts.

The team noted good coordination between the various trending programs and the CAP. However, the team also noted that the trending program relies on individuals to identify the trends, with the computers only holding and sorting the information. With the exception of the Engineering Work Station program, noted above, the licensee did not use computers to flag potential trends or problems.

The team performed an in-depth examination of the licensee's instrument set-point and calibration trending program as a follow-on to an observation made in the previous problem identification and resolution inspection. The team found that the licensee had corrected the difficulty in trending instrument performance, specifically, the current data base was comprehensive and was reviewed quarterly for any developing trends. The team noted one possible weakness in that the initial CR, where a trend was noted, was closed separately from an additional CR initiated to identify the trend. The team noted that a more clearly defined documentation trail would have the trend tracked as a corrective action to the initial CR. On October 29, 2004, the licensee initiated IR 268311, "Possible Enhancement to IR Processing," to assess the trend identification process

### .3 Effectiveness of Corrective Action

#### a. Inspection Scope

The team reviewed past inspection results, selected CRs, root cause reports, and common cause evaluations to verify that corrective actions, commensurate with the safety significance of the issues, were specified and implemented in a timely manner. The team evaluated the effectiveness of corrective actions. The team also reviewed the licensee's corrective actions for Non-Cited Violations (NCVs) documented in NRC inspections in the past 2 years.

#### b. Observations

In general, the licensee's corrective actions for the sample reviewed were appropriate and appeared to have been effective. The team noted that the licensee appropriately used the CAP to document instances where previous corrective actions were ineffective or inappropriate.

### .4 Documentation

#### a. Inspection Scope:

The team independently assessed the thoroughness of the licensee's documentation to determine whether the documents could stand on their own or required additional inputs. If additional information was necessary, the team also assessed the availability of the information.

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b. Observations

In general, the team found the licensee's documentation practices associated with the corrective action program to be weak.

b.1 In several instances, the team was only able to successfully understand the licensee's actions because key individuals recalled details of what had occurred and, more important, why it occurred. The team noted that this documentation weakness left the licensee vulnerable to the loss of key information. For example:

- OPEX Item 171244 was initiated to perform a review of NRC Information Notice 2002-29, "Design Problems in Safety Functions of Pneumatic Systems." The licensee's review stated that no actions were needed as the information in the notice was similar to that included in Generic Letter 88-14, "Instrument Air Supply Problems Affecting Safety-Related Equipment." While this was true, it was not apparent that the licensee considered physical or operational changes in the pneumatic systems between 1988 and 2002 which could have resulted in the information included in Information Notice 2002-29 having increased applicability at the station. The team discussed this OPEX item with the responsible engineering personnel and found that a full review of pneumatic system performance had been performed. However, this review was not documented.
- CR 144464, "Concerns with CAPR closure and EFR for ECCS venting." While containing valuable information, the CR did not identify clearly what the inadequacies were, what the procedural changes were, or how the corrective actions addressed the inadequacies. Initial discussions with the licensee identified they were unable to address the deficiencies. The team's questions were appropriately addressed only after a discussion with the individual who wrote the document.
- A number of CRs (e.g., 161395, 171039, 175517, 183316) identified inadequate assessments or evaluations and indicated that the evaluation had been returned to the originator along with comments. The CRs neither itemized the specific problems with the documents nor addressed the cause for the deficiencies. Without detailed information in the CR, it is difficult to identify whether CAs were being effective or if repeat failures were continuing to occur.

b.2 The team also identified a number of CRs involving human performance where from the documentation, it did not appear that the individual had been interviewed regarding the error. The failure to interview individuals associated with issues limits an assessment's ability to identify broader corrective actions.

- CR 158648 "1/2-5599-Y valve operator air supply hooked up in reverse." The CR documented what had occurred and evaluated the extent of condition. The CR did not identify whether the mechanics who connected the air lines backwards had been interviewed. Further, the CR did not address potential knowledge deficiencies which may have led to the problem. In answering the

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team's questions, the licensee indicated that potential knowledge deficiencies were addressed in a subsequent CR written on a similar performance error.

.5 Safety-Conscious Work Environment (SCWE) Assessment

a. Inspection Scope

The team conducted interviews with plant staff to assess whether there were impediments to the establishment of a SCWE. During the interviews, the team used Appendix 1 to Inspection Procedure 71152, "Suggested Questions for Use in Discussions with Licensee Individuals Concerning PI&R Issues," as a guide to gather information and develop insights. The team also discussed the implementation of the Employee Concerns Program (ECP) with the plant's ECP Coordinator.

b. Observations

Plant staff interviewed did not express any concerns regarding the safety conscious work environment. The staff was aware of and generally familiar with the corrective action program. During the interviews, the team found that the plant staff was generally unfamiliar with the process to use for initiating an anonymous issue report. However, the plant staff felt that the option of anonymous issue reports was not needed since they were comfortable documenting potential safety issues. The licensee staff's unfamiliarity with anonymous issue reports was provided to licensee management for information. The licensee initiated IR 267841 on this issue and provided a site-wide communication to ensure that everyone was knowledgeable on the methods available to generate anonymous issue reports.

None of the individuals interviewed expressed any reluctance to identify plant safety issues. However, only a few of the people interviewed readily identified the use of the Employee Concerns Program as an alternative method for raising a concern. While most individuals favored the ease of use of the new system, some individuals indicated they were not adept at using the computer system to initiate an item into the corrective action program. In all cases, these workers stated that they would ask for assistance in initiating an IR. None of the workers interviewed appeared reluctant to identify safety issues or bring them to the attention of the NRC if they felt it was necessary. They did say they would go through their supervisor first and use the alternate methods if they needed to do so.

4OA6 Management Meetings

.1 Exit Meeting Summary

The team presented the inspection results to Mr. R. Gideon and other members of licensee management in an exit meeting on October 29, 2004. The licensee acknowledged the observations presented and indicated that no proprietary information was provided to the team.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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Individuals Contacted

Licensee:

J. Bartlet	Operations Training Manager
W. Beck	Regulatory Assurance Manager
T. Bell	On Line Work Center Manager
D. Craddick	Electrical Maintenance Superintendent
T. Fuhs	Regulatory Assurance
R. Gideon	Plant Manager
D. Hieggelke	Nuclear Oversight Manager
D. Kallenbach	Radiation Protection Superintendent
J. O'Neil	Corrective Action Program Manager
M. Perito	QC/Operations Manager
C. VanDenburgh	Engineering

NRC:

M. Kurth	NRC Quad Cities Resident Inspector
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Acronyms Used in the Report

ACE	Apparent Cause Evaluation
ACIT	Action Item
CAPR	Corrective Action to Prevent Recurrence
CFR	Code of Federal Regulations
CR	Condition Report
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
ECP	Employee Concerns Program
EFR	Effectiveness Review
HPCI	High Pressure Coolant Injection
IEMA	Illinois Emergency Management Agency
IR	Issue Report
NCV	Non-cited violation
OPEX	Operating Experience
SCWE	Safety Conscious Work Environment
SIL	Service Information Letter
TBCCW	Turbine Building Closed Cooling Water



Documents Reviewed

**Human Performance Related Condition Reports**

<u>Ar Number</u>	<u>Ar Subject</u>	<u>Origination Date</u>
00134002	MRule: ECCS Room Coolers	20021204
00134318	Improper respirator installed in SCBA used for fire drill	20021206
00135466	Vibration of Steam lines may risk test tap line to break	20021212
00136195	IMPROPER USE OF BOUNDING FOR 1A RHR HX OPEVAL ISSUE	20021217
00137008	Late CR initiation to evaluate U1 HPCI venting results	20021220
00137396	Sheet Metal Screw Installation Causes Electrical Arc	20021227
00140164	Valve Found Already Closed And Tagged During C/O First Hang	20030119
00141008	Compensatory action for Op Eval 105454-08 not implemented	20030124
00144309	Due date of PMID 33784-01 beyond interval for late due date	20030212
00145840	Air Supply to Regulator for AOV 2-3507-A Isolated	20030223
00147691	Failed PMT for New Valve	20030306
00150278	Inadvertent RCIC Trip Throttle Valve trip & unplanned LCO	20030322
00151852	Unit One Emergency Diesel Generator Trip Checks	20030401
00152430	Operability Determination Actions Inappropriately Closed	20030404
00156029	2Bcrd motor oil drain plug found loose on running pump	20030428
00158648	1/2-5599-Y valve operator air supply hooked up in reverse.	20030513
00164026	"B" Core Spray Loop Air venting investigation results	20030619
00164221	3-VALVE MANIFOLD MISPOSITION	20030620
00164355	Wrong valve opened when recircing 2B Cond Phase Separator	20030622
00181083	Improper Verification Practices	20031015
00182811	Apparent incorrect pressure indicator calibrated.	20031024
00201012	Orifice plates for RO and FE installed reversed (EC24429)	20040211
00202221	Venture electricians working on equipment not out of service	20040217
00205444	NOS ID'd equipment staged in electrical cabinet	20040302
00205639	Potential containment breach	20040302
00205695	Contractor Tools Stored in Electrical Panel (Q2R17 OLL)	20040303
00205740	EC# 24553 Components Not Installed Per Approved Design	20040303
00206505	Water pressure encountered when unbolting north H2 cooler	20040305
00209409	RV 2-3607 Leaks 60 dpm After System Placed In Service	20040319
00211163	Inoperable CRD Accumulator During Scram Timing	20040326
00211425	HCU 22-15 113 valve found out of position	20040329
00211881	Rework - CS Rm Cooler Temp Switch cal'd to incorrect data	20040330
00211966	Hand Tools Found Stuffed in Cable Tray	20040331
00221700	Red Window in Engineering Technical Rigor Fundamental	20040517

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00223488	Appendix R Not Addressed in OpEval 220863	20040525
00225847	FME In Electrical Cabinets	20040604
00256816	North Main Control Room Door #329 Difficulties Closing	20040925

### Root and Common Cause Analyses

00138696	2-1001-29A immediately reclosed when opened during testing	20030109
00138737	Flammables not being properly stored	20030109
00139325	Leak in line 1-1043B-14"-L Approx 1 Gal per Minute	20030114
00140818	NOS identified apparent trends in RCR themes	20030123
00151852	Unit One Emergency Diesel Generator Trip Checks	20030401
00152094	Challenges to Radwaste shipping activities	20030403
00158786	Two Corrective Actions Not Entered for CR 152884	20030514
00159607	Pressure boundry leakage from 2" Rx head vent line	20030520
00159864	Inability to cool upper elevations for Rx disassembly	20030521
00162091	FP DRILL PERFORMANCE DEFICIENCIES	20030605
00162743	Dresden CAPCo Identifies Adverse Trend in EPU Modifications	20030611
00164026	"B" Core Spray Loop Air venting investigation results	20030619
00170142	MSL hi flow instrument drift - reportable	20030804
00170378	Trend of CR's dealing with reactor pressure >1005 psig	20030805
00172349	Review of July CAP data identifies a potential trend	20030820
00179578	Review of Chemistry CAP data identifies a potential trend	20031006
00181022	Security Safety FASA Recommendations	20031015
00181083	Improper Verification Practices	20031015
00197277	CCA needed for External Identified CRs	20040123
00198137	INOP D/W Rad Monitor due to BAD SOLDER JOINT ON RIS 2-2419-A	20040129
00202476	Human performance errors	20040218
00208111	Q2R17 OLL U-2 Refuel Bridge experienced "Hoist Tube Hangup"	20040312
00209752	Site CR Trending CC Document Quality as Issue	20040321
00211724	Unexpected U2 reactor scram during turbine weekly testing	20040330
00216684	Untimely Initiation of Condition Reports by Engineering	20040423
00216941	Common Cause for SRM/IRM outage problems	20040426
00222787	Initiate Planned CCA for Unplanned Modification Revisions	20040521
00235678	OOT, DPIS 1-0261-2M, TREND CODE B2	20040713
00240264	Ineffective CAPR For Main Steam Line Flow Switch Root Cause	20040730
00240494	OOT, 1-263-111A, 1-263-111C, TREND CODE B2	20040730
00243058	Operations Human Error Prevention Fundamental Id'd As Yellow	20040810
00255735	E-3 Walk Down Identified Additional Parts Required.	20040922

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## Operating Experience Condition Reports

00136898	GE SIL 646 Target Rock SRV failed to fully open	20021220
00141461	GE SC 03-01, Additional material concerns for TIP valve qualification	20030128
00145346	Complete SOER 2002-03 Recommendations	20030220
00148037	NER DR-03-001, Rev1, High Flow Control Line After Load Drop	20030307
00151777	GE SIL 448R1 GE AK/AKR breaker lube OPEX	20030401
00156575	NER KS-03-006, Corrective actions for 2002 plant events	20030430
00164755	NRC GL 2003-01, Control Room Habitability, OPEX	20030625
00168622	NER QC-03-047, Inadvertent Opening of PORV and Manual Scram	20030722
00171244	NRC IN2002-29 Des Problems in Sfty Functions of Pneu Sys	20030812
00171258	NRC IN2002-34 Fail Of Sfty-Related Circ Break Aux Switch	20030812
00174867	NER KS-03-016 Red, Scram Due To Inadequate SSPV Disposition	20030909
00175971	SME Review Of NER DR 03-096, MOV Stroke Time Issues	20030916
00179572	NRC, IN 2003-18, GE SBM Control Switches W/Defective Cam	20031006
00200024	NER DR-04-006 Red U3 Reactor Scram- Turbine Oil Cooler Trsfr	20040206
00200989	SER 6-03 Cooling Water System Debris Intrusion	20040211
00202720	Sme Review Of Ner Dr-04-009, Water In Hpci Steam Line /Scram	20040219
00219125	Sme Review Of Oe-18201, Hydrogen Found In Srv Downcomers	20040506
00227149	INPO SEN 249 Worker Injured Removing Water Box Cover	20040609
00254371	NER LI-04-067 Red Unit 1 Thermal Power Exceeded By .2-.4 percent	20040918

## NRC Item Related Condition Reports

00205862	Wrong oil in the 2A Core Spray motor upper and lower resvr.	20040303
00222870	SSDR not updated with max. torus temp. with HPCI running	20040521
00182811	Apparent incorrect pressure indicator calibrated.	20031024
00205892	Wrong oil in the 2B Core Spray motor upper and lower rsrvr.	20040303
00223815	(SSDI) Potential to Drain the Torus on Failure of RCIC Line	20040526
00167725	Missed Opportunity - Corrective Action Program	20030715
00171034	Past Operability not Addressed for 1B RHRSW Pump Leak	20030811
00181040	Cable Tabulation Dwgs contain Incorrect Service Description	20031015
00182702	Deficiency Identified in Calculation QDC-0000-E-0853, R/O	20031024
00185418	Flood Protection Alarm PM Review is Needed	20031107
00189928	Additional Corrective Action Prudent for CR 110756 (RHRSW Screens)	20031210

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00190069	1A RHR HX Repair Not Included in the Sec. XI R/R Prog.	20031210
00190175	RHR SW Pump Cubicle Cooler tube plugging limit in UFSAR	20031211
00200169	CCST Heaters--use of increased monitoring as compensatory ac	20040206
00205146	Load rating for Hoist found greater than support structure.	20040301
00220295	QCOA 1300-02 Has Error for Maintaining RCIC <=/= 400gpm	20040511
00220460	SSDI Walkdown Identified Incorrect TOL Setting	20040512
00220546	Operations Procedures lists old ITS limits for Rx Lo-Lo Lvl	20040512
00220748	Cal QDC-1300-E-021 apparent omission	20040513
00221078	RCIC Operation w/ App R torus pressure not well documented	20040514
00222543	SSMP Motor Start Limitations	20040520
00222713	SSDI Issue RCIC Operation During an Appendix R Fire	20040521
00223638	SSDI RCIC/CS Rm Temp Switch Locations Do Not Match UFSAR	20040525
00224355	Wrong Vendor letter used for engineering reference	20040528
00243264	Non-conservative technical specifications requirement	20040810
00247298	Error Discovered In SRV Discharge Flange Calculation	20040825
00254931	Qcos 5750-04 Test Acceptance Criteria	20040920
00254936	Maintenance Procedures Lack Some Acceptance Criteria	20040920
00194680	Identifying Non-Conservative Technical Specifications	20040112

### **Configuration Control Condition Reports**

00134855	Feed Water Pump Low Suction Pressure	20021210
00135995	Bkr For Mcc 27-1 Cub F1 Found To Be Wrong Size For Application	20021216
00144400	Fit-Up Anomalies Id'd For 1a Rhr Ht Exchanger Floating Head	20030213
00145867	Valve 1-4799-824 Not Installed Per Drawing	20030224
00151852	Unit One Emergency Diesel Generator Trip Checks	20030401
00155349	Received RFP Suction Low Pressure Alarms	20030423
00155624	Several Hundred Calculation Revisions "Inprog" In Passport	20030424
00157697	Qcop 6000-4 Not Revised Post Epu	20030507
00158439	Insufficient Oil Placed Into 2a Serv Wtr Motor Upper Bearing	20030512
00160467	3c ERV Pilot Valve Independently Cycles When Operated	20030525
00161015	QCOP 5600-04 Not Revised For Unit 1 Epu Conditions	20030529
00162743	Dresden CAPCO Identifies Adverse Trend In EPU Modifications	20030611
00163226	Station Vent System Controlled Drawings Need Major Revision	20030613
00166134	FASA Supplement - Permanent Plant Modification	20030703
00167422	Offgas Glycol System Discrepancies	20030714
00175380	Piping Clamps Missing From Various Crd System Pipes.	20030911
00176455	Overload Heater Size Drawing Issues	20030919
00180661	Loss Of HPCI Room Cooler Fan On Appendix K And Eq	20031013

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00182969	HRSS Line Broken Loose From Pipe Hangers.	20031026
00184538	Fw Discharge Pipe Hanger Fastener Falls To Floor In Rfp Room	20031103
00187652	Classification Change From Non-Safety To Safety-Related	20031121
00188277	Ec 337692 Specified Torque Valves Exceeded Yield Of U-Bolt	20031126
00188306	Inadequate Input Verification For Calculation Qc-10q-301	20031126
00188668	New XI-3 System Is Safety Hazard.	20031201
00190175	RHRWSW Pump Cubicle Cooler Tube Plugging Limit In UFSAR	20031211
00194651	EC 341397 Scope Increase Due To Voltage Drop Concerns	20040112
00196677	Incorrect Trip Settings For Epn 2-6900-26-2b	20040121
00201118	GE Identifies Potential HPCI Design Issues	20040211
00202451	Irregularities While Performing Ec 341370	20040218
00206203	Rx Vessel Bottom Drain Temperature Continuing Trend	20040304
00207872	Existing Overload Heater Size Do Not Match Drawing.	20040312
00212087	EC 24424 Requires Revision For The Unit 2 Edg	20040331
00215791	Unplanned Revisions To Ec 23918 Ups/Battery Room Hvac	20040419
00218406	Print 4e-2679f Shows The Wrong Size Transformer In MCC 29-2	20040503
00219901	Dwgs Identify Ss Piping Replacements Never Installed	20040510
00221865	Pressure/Temperature Curves Non-Conservative	20040518
00222787	Initiate Planned Cca For Unplanned Modification Revisions	20040521
00231212	Nrc Uri 04-002-01 Concerning Mssv Setpoint Drift	20040624
00233191	Pipe Support Clamp On Sw Line To 1-5746-A With No Hangar Att	20040701
00234471	"As Found" Circuit Breaker Size Does Not Match Plant Drawing	20040708
00236208	Potential Breaker Sizing Issue In Cubicle	20040715
00237095	Ec Eval. 347941 Used To Implement A Configuration Change	20040719
00237204	System Function Changed Without 50.59 Screening Review	20040719
00239516	Power Changes Due To Which Feedwater Pumps (Rfp) Are Running	20040728
00239545	Im Work Order 00584879-01 Cancelled In Error.	20040728
00245512	Pm Completed On Breaker 603 Instead Of Breaker 607	20040818
00247373	Fail Open Valve Installed Instead Of A Fail Close Valve.	20040825

**Rework Condition Reports**

00149922	Gross EHC leak during attempt to return 2A EHC pump	20030320
00186069	1-0203-3D steam leak at flange	20031112
00132066	Wrong Splice Kits Installed on 250V Cables	20021118
00147691	Failed PMT for New Valve	20030306
00160405	PMT Failure on WO579144-01	20030524

00166787	Unit 1 CIV #3 EHC leak	20030709
00169754	Reactor level indication	20030731
00172229	Failed Pmt For WO #586281 (2-3201-A 2A RFP Min Flow)	20030819
00182424	Torus High Level Switches	20031022
00196997	OOT, (LT 1-1641-5A) Trend Code =B4	20040122
00201012	Orifice plates for RO and FE installed reversed (EC24429)	20040211
00216730	Water in sensing lines (rework)	20040423
00130676	1B Fuel Pool pump failed to start.	20021107
00132857	Oil Mist From Concrete Piping Repair To Ground	20021122
00135932	Flow blockage in NORMAL lineup for Gen Thermal Gas Analyzer	20021216
00139873	Failed PMT for Work Order 98131574	20030117
00154484	Auto Start Relay (ASR) for ½ EDG Lost Continuity	20030417
00158353	High vibration on the OV2 Fan due to bearing degradation	20030512
00183900	Wrong parts reserved for valve overhaul	20031030

### **Operations Configuration Control & Closed Level 1 & 2 CRs**

00126235	RHR logic electric lead disconnected	20021007
00137908	2A Recirc MG set scoop tube inadvertent reset	20030102
00138149	H2/ O2 Monitor System Control Switch Found in OFF Position	20030105
00140164	Valve Found Already Closed And Tagged During C/O First Hang	20030119
00150278	Inadvertent RCIC Trip Throttle Valve trip & unplanned LCO	20030322
00151220	Valve position differences between QOM, procedure and P&ID	20030328
00159607	Pressure boundary leakage from 2" Rx head vent line	20030520
00161345	CAM System Alarms	20030531
00211163	Inoperable CRD Accumulator During Scram Timing	20040326
00218906	Discovered 1-1901-12, Fuel Pool Gate Drain Vlv Close	20040505

### **Operator Work Arounds**

00227718	Review RCIC system Design and Licensing Basis	20040611
00146146	Rising offgas levels unit 1	20030225
00133579	1B1 heater normal LCV tripping due to Flash Tank high level	20021201
00136806	2A MSDT level indication (LI 2-3541-59A) is pegged high.	20021219
00141665	SJAE Rad Monitors elevated (Ref. CR 146146)	20030129
00076147	Q2001-02891 - System modification creates excess entries	20010917
00102082	Low Flow Feedwater Reg Oscillations	20020403
00129665	2B3 Heater Trip	20021031
00138067	CNMT H2/O2 MON Torus Sample Line Heat Trace Temperature	20030103
00156214	Offgas Sample parameters > Action Lvl One for Failed Fuel	20030428

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00161391	1B RR MG Set Voltage Regulator Volts/Hertz	20030601
00193417	Rework on FT 0-7541-1B, continues to act erratic	20040105
00207287	Toxic Gas Analyzer false high concentration inops CREVs	20040310
00101668	U-2 Digital FWLC response during shutdown	20020330
00131422	Service Air Back-Up Valve Auto Open	20021113
00142151	Low Flow FRV oscillations	20030130
00142500	Feedwater Low Flow Feed Regulator valve	20030201
00148161	Low flow frv cable loose causing erratic operation of valve	20030308
00148469	NOS ID'd no CRs written for frequent alarms from HCU 26-39	20030311
00193621	CCST Heaters Reliability	20040106
00210224	OOT, (0-7541-1B), TREND CODE = (B3)	20040323
00244262	Owa Review For Defeating Rci Suction Vlv Swap Logic	20040813

### Operability CRs

00132397	Agastat Time-Delay Relays -Coil Lead Solder Connection Issue	20021120
00138067	CNMT H2/O2 MON Torus Sample Line Heat Trace Temperature	20030103
00143666	White residue found at 480V MCCs aux contacts	20030209
00148103	Moore Type SCT signal converters/isolators design problem	20030307
00179235	Potentially non-conservative pressure temperature curves	20031003
00223815	(SSDI) Potential to Drain the Torus on Failure of RCIC Line	20040526
00235997	Installed Transformer Does Not Match Print #4e-1438j	20040714
00105454	GE Part 21 Notification SC 02-05	20020426
00126208	Missing bolt on cplg guard	20021007
00159950	1-1001-43A follow up to CR 159693	20030521
00186375	Main Steam SRVDL Flange Rating Lower Than Max Pressure	20031113
00221865	Pressure/Temperature Curves Non-Conservative	20040518
00159693	Failure of 1-1001-43A to fully stroke	20030520

### Outage Related CRs

00095024	LLRT on 2-0220-1 valve exceeded its Required Action limit	20020213
00094984	LLRT,MSIV exceeded the allowable leakage limit of < 46 scfh	20020213
00095044	LLRT on 2-0220-2 valve exceeded its admin Alarm Limit	20020213
00208828	Unplanned TS Entry, CREVs Inop	20040317
00097303	Deficiencies in DG2 PT compt of aux cubicle at Bus 24-1	20020228
00095273	EHC Discharge pressure switch OOT	20020215
00095515	Out of tolerance	20020217
00095554	Line 2-3009A-1" as-found wall thickness below minimum wall.	20020217
00095557	LLRT Failed on valve 2-1301-64, would not hold pressure.	20020217

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00095798	Bus 24-1 UV relay found Out of Tolerance	20020219
00095965	2-2301-45 failed leak test QCOS 2300-19.	20020220
00096226	LLRT on 2599-4B exceeded its Admin Limit	20020221
00096239	LLRT on 2-2599-5A exceeded its Administrative limit	20020221
00097628	Found 1-1459B out of tolerance while performing qcis 1400-03	20020304
00204106	APRM #6, TB #3 has Multiple Discrepancies	20040225
00204737	OOT, Relay 2-6701-21-1 (AC)	20040227
00204739	OOT, Relay 2-6701-21-1 (AD)	20040227
00205670	Bus 26 4kV Feed Breaker "A" phase relay OOT	20040303
00205671	2-203-1D 2B switch out of tech spec allowable value	20040303
00205672	Bus 26 4kV Feed Breaker "C" phase relay OOT	20040303
00207572	Found loose wire in plug for drywell rad monitor 2-2419B.	20040310
00208197	TIP Tubing Missing Clamps Undervessel	20040313
00208205	LPRM 4041B Failure	20040313
00208870	LPRM 56-25D failed downscale	20040317
00211248	2B DW Rad Monitor 2-2419B Reading Downscale	20040327
Q1998-04844	Discovered localized wall pitting HPCI suction during ISI	11/07/1998
Q1998-04863	PS 1-5641-124 Out of Tolerance	11/08/1998
Q1998-04887	HPCI switches found Out of Tolerance	11/09/1998
Q1998-04894	Turbine Trip PS 1-5650-100A found Out of Tolerance	11/09/1998
Q1998-04937	RCIC temperature switches (2) as funds were Out of Tolerance	11/11/1998
Q1998-04942	DPIS 2-302-52 found Out of Tolerance	11/12/1998
Q1998-05035	Condenser low vacuum switch found Out of Tolerance	11/15/1998
Q1998-05036	Relay 287-121B time delay fund slightly Out of Tolerance	11/15/1998
Q1998-05051	LS 1-5441-34A Out of Tolerance	11/16/1998
Q1998-05084	Instrument failure	11/17/1998
Q1998-05117	Out of Tolerance	11/18/1998
Q1998-05133	As found date OOT	11/18/1998
Q1998-05158	Trip Out of Tolerance	11/19/1998
Q1998-05200	PS 1-263-37b found Out of Tolerance	11/21/1998
Q1998-05207	HPCI flow loop calibration found Out of Tolerance	11/21/1998
Q1998-05220	Out of Tolerance	11/23/1998
Q1998-05290	Out of Tolerances found during QCIS 0200-01	11/25/1998
Q1998-05305	Out of Tolerance (per IMD Administrative Guidance) while performing QIP 263-1	11/26/1998
Q1998-05318	Transmitter Out of Calibration	11/28/1998

**Corrective Action Program Process Coded CRs**

00136710	Delay in Condition Report Issuance after Problem Identified	20021219
00136729	Identified problem reporting	20021219

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00137020	Corrective Action Assignment completed inappropriately	20021220
00139529	CR 132067 closed without completion of recommended action	20030115
00140355	NOS ID'd RCR on B14-1 fuse drawer didn't address CR 132496	20030121
00140371	MRC Rejected RP Root Cause Report	20030121
00140818	NOS identified apparent trends in RCR themes	20030123
00144464	Concerns with CAPR closure & EFR for ECCS venting	20030213
00145305	Dried grease at Dresden/Quad aux contacts-Untimely response	20030219
00145609	Investigation Timeliness Needs Improvement	20030221
00146496	NOS Identified Untimely Corrective Actions	20030227
00146791	NOS identified ineffective freeze seal	20030228
00146799	NOS id'd problems with Effectiveness Review 95542-07	20030228
00146878	Corrective Action AT Assignment 00143607-04 Overdue	20030228
00147253	ACE Assignment 142318-01 Rejected by MRC	20030303
00149149	QRT Grade 3 for ACE 101650-01	20030314
00152154	Corrective action items from CR149922 not initiated	20030403
00152972	Action Tracking Item Overdue	20030408
00153078	NOS identified trend codes not updated after ACE performed.	20030409
00153101	CR 89176 CAPR Action Not as Directed	20030409
00153525	Soer 02-4 FASA for SCWE at Quad Cities- Objective 4	20030411
00156697	NOS rated site CAP implementation as ineffective for 2003Q1	20030501
00157332	NOS "Ineffective Performance" CR Not Timely	20030505
00160946	NOS IDd CR processing quality issues - supervisory reviews	20030529
00161395	EACE 154698 Receives MQRT Grade of "D"	20030601
00161396	ACE 150851 Receives MQRT Grade of "D"	20030601
00161503	ACE 150278 Receives MQRT Grade of "D"	20030602
00161528	NOS ID'd CR not written for test failure and TS entry	20030602
00161792	Corrective Action not performed due to cancellation of WO	20030604
00162160	QRT Grade 3 for ACE 148822-01	20030605
00163851	Corrective action entered that MRC did not approve	20030618
00164210	ACE 152803 Receives MQRT Grade of "D"	20030620
00166557	HPCI MO 2-2301-3 possible leak by	20030708
00167058	Station response to venting issues challenges investigation	20030710
00167281	NOS Rated Site Corrective Action Program Ineffective	20030711
00167442	Priority for CRs not properly identified	20030714
00167972	MRC rejected ACE	20030717
00168928	NRC NCV 03-05-02 - Inadequate CA for a Preconditioning Issue	20030724
00171039	EACE 127687 Receives MQRT Grade of "D"	20030811
00171042	EACE 145402 Receives MQRT Grade of "D"	20030811
00172936	NOS ID'd: Outage Lessons Learned Database	20030825
00175517	ACE 137396 Receives MQRT Grade of "D"	20030912

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00176282	NOS ID: Weakness in a Root Cause Analysis	20030918
00177029	EACE Rejected by MRC	20030923
00177583	Unsatisfactory Closure of CR 174617	20030925
00178914	CR 143866 - Two Corrective Actions not Assigned Upon Closure	20031002
00179144	Engineering RCR expectations not met	20031003
00180371	Inadequate information to complete corrective actions	20031010
00180678	CCA CAP Performance Indicator Yellow	20031013
00181086	Apparent Cause Administrative Deficiencies (CR)	20031015
00181949	Untimely CR Initiation	20031020
00183316	ACE 131050 Receives MQRT Grade of "F"	20031010
00186434	FASA Deficiency - Ineffective Corrective Action	20031113
00196512	PI for Median Age of CA is Red	20040120
00197277	CCA needed for External Identified CRs	20040123
00201217	Corrective Action AT closed without all actions performed	20040212
00216467	Ineffective ACE and ACIT closure problems	20040422
00216684	Untimely Initiation of Condition Reports by Engineering	20040423
00227203	Cr Initiation Not Always Timely For Some Areas	20040609
00227259	Nos Id D: Mrff Cr Processing Issues	20040609
00227368	Site Wide Trending Not Consistently Used To Improve Performance	20040610
00239314	Cr210037 Corrective Action Incomplete	20040727
00240264	Ineffective Capr For Main Steam Line Flow Switch Root Cause	20040730
00244665	Evaluation For Ir 232361 Does Not Exist In Passport	20040816
00246150	Potential Problem With The Timely Routing Of Irs To Ops	20040820

### **Additional Items Reviewed**

NRC Information Notice 2002-29; Design Problems in Safety Functions of Pneumatic Systems; dated October 15, 2002

General Electric Service Information Letter 448; Maintenance and Lubricants for GE Type AK/AKR Circuit Breakers; Revision 2

ENG-04-07; Quad Cities June 2004 Quarterly System Health Indicators; dated July 22, 2004

NRC Generic Letter 88-14; Instrument Air Supply System Problems Affecting Safety-Related Components; dated August 8, 1988

Commonwealth Edison's Response to Generic Letter 88-14; dated February 6, 1989

Maintenance Rule Performance Criteria Information for Function Z0012-01; Provide Internal Flood Protection for the Reactor Building; dated October 22, 2004

Common Cause Analysis 209720; Analysis of the Trend in Work Practice Work Instructions Coded Condition Reports Attributed to Maintenance; dated June 27, 2004

Common Cause Analysis 209752; Engineering Document Quality; dated July 28, 2004

CC-AA-103-2001; Setpoint Change Control; Revision 1

ESPT Continuing Training Course 04TESCT; Operability Determination; Revision 1

List of Camera Used for ALARA Purposes; dated October 26, 2004

Operating Experience Item 129522; Review of General Electric Technical Information Letter 1360-2, "EHC Power Supply Inspections;" dated September 23, 2002

Operating Experience Item 136842; Review of General Electric SC02-22, "Potential Non-Conservatism in Small Steam Line Break Analysis Assumptions for Mark I Containment Equipment Qualification;" dated January 19, 2003

Operating Experience Item 136898; Review of General Electric Service Information Letter 646, "Target Rock Safety Relief Valve Failure to Fully Open;" dated January 29, 2003

Operating Experience Item 141461; Review of General Electric SC03-01, "Additional Material Consideration for TIP System Ball and Shear Valve Qualifications;" dated June 16, 2003

Operating Experience Item 148037; Review of Nuclear Event Report DR-03-001, "High Flow Control Line Following Load Drop;" dated April 4, 2003

Operating Experience Item 156575; Review of Nuclear Event Report KS-03-006, "Fleet-Wide Actions for Operating Events from 2002;" dated August 26, 2003

Operating Experience Item 171258; Review NRC Information Notice 2002-37, "Failure of Safety-Related Circuit Breaker External Auxiliary Switches at Columbia Generating Station;" dated January 5, 2003

Operating Experience Item 174867; Review of Nuclear Event Report KS-03-007, "Inadequate Disposition of Single Point Vulnerability Results;" dated October 1, 2003

Operating Experience Item 175971; Review of Nuclear Event Report DR-03-096, "Stroke Time Issue with High Pressure Coolant Injection Pump Discharge to Condensate Storage Tank Motor Operated Valves;" dated October 27, 2003

Operating Experience Item 179572; Review NRC Information Notice 2003-18, "General Electric SBM Control Switches with Defective Cam Followers;" dated March 30, 2004

Operating Experience Item 200024; Review of Nuclear Event Report DR-04-006, "Unit 3 Reactor Scram While Transferring Main Turbine Lube Oil Cooler;" dated April 20, 2004

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Operating Experience Item 202720; Review of Nuclear Event Report DR-04-009, "Water Entered Into the High Pressure Coolant Injection Steam Line Following a Scram;" dated March 31, 2004

Operating Experience Item 254371; Review of Nuclear Event Report LI-04-067, "Unit 1 Thermal Power Exceeded by 0.2 - 0.4 Percent;" dated September 21, 2004

P & ID, —21, Diagram of Turbine Building Closed Cooling Water System (Unit 1)  
QOM, 1-3800-01, Rev. 8, U1 TBCCW Valve Check List

TBCCW System Engineering Notebook Index and Sample of Notebook

List of OPEN Work Orders and Work Requests for TBCCW System

Common Cause Analysis, CCA 203885-19 (Local Leak Rate Test Failures Affect Refuel Outage Performance)

### **Issue Reports Submitted as a Result of the Team Observations**

IR 00265130; Trapeze Type Piping Support Nut and Locknut Not Engaged  
IR 00265397; Surface Corrosion on Pump Flanges/Hardware  
IR 00265505; Valve Has Residue On/Near Packing Gland  
IR 00265625; U-1 TBCCW Expansion Tank LCV Air Line Vibrates  
IR 00265729; TBCCW Piping Hanger Issues in Crib House  
IR 00266695; Valve has Residue on/Near Packing Gland  
IR 00266711; TBCCW Pipe Hanger Issues in U-2 Crib House  
IR 00266714; Pipe Support U-Bolts Lose or Missing, U-1 CRD Level  
IR 00266734; U-1 RFP U-Bolt Pipe Supports Have Loose/Missing Jamb Nuts  
IR 00266747; U-2 RFP U-Bolt Pipe Supports Have Loose/Missing Jamb Nuts  
AR 00266778; TBCCW Valves & Gauges for 1A IAC Have SW System EPNS  
AR 00266814; TBCCW Valves Have 3900 System EPNS & SW and DW System Names  
IR 00266891; TBCCW Valves/Gauges Have 3900 System EPNS & Noun Names  
IR 00267665; Extent of Condition From Pipe Support/Hanger Issues Found