June 29, 2001

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
Quad Cities Nuclear Power Station
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: QUAD CITIES NUCLEAR POWER STATION
NRC INSPECTION REPORT 50-254/01-09; 50-265/01-09

Dear Mr. Kingsley:

On May 30, 2001, the NRC completed the baseline problem identification and resolution inspection of your Quad Cities Nuclear Generating Plant, Units 1 and 2. The results of this inspection were discussed with Mr. T. Tulon, and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to identification and resolution of problems and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observation of activities, and interviews with personnel.

Based on the results of the inspection, the inspectors concluded that the overall corrective action program was a complete program containing all the necessary attributes and was successfully identifying and correcting issues at Quad Cities. However, over the past year there were several instances of difficulties with problem identification, evaluation and resolution. Most of these were documented in previous findings, violations and inspection reports. In general, these issues have been recognized, and actions have been taken to address them. Three No Color findings were identified during this inspection including one which was a violation of NRC requirements for failure to evaluate the effect of out-of-tolerance measurement and test equipment. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation (NCV), consistent with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this Non-Cited Violation, you should provide a response, with the basis for your denial, within 30 days of the date of this inspection report to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-001; and the NRC Resident Inspector at the Quad Cities facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

We will gladly discuss any questions you have concerning the inspection.

Sincerely,

/RA/

Mark Ring, Chief
Branch 1
Division of Reactor Projects

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

Enclosure: Inspection Report 50-254/01-09;
50-265/01-09

cc w/encl: W. Bohlke, Senior Vice President, Nuclear Services
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-254; 50-265
License Nos:	DPR-29; DPR-30
Report Nos:	50-254/01-09; 50-265/01-09
Licensee:	Exelon Nuclear
Facility:	Quad Cities Nuclear Generating Station Units 1 and 2
Location	22710 206th Avenue North Cordova, IL 61242
Inspection Dates:	May 14 through May 30, 2001
Inspectors:	R. Lerch, Lead Inspector K. Green-Bates, Reactor Engineer J. Adams, Resident Inspector
Approved by:	Mark Ring, Chief Branch 1 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000254-01-09, IR 05000265-01-09, on 5/14-5/30/01; Exelon Nuclear; Quad Cities Nuclear Plant; Units 1 and 2; Identification and Resolution of Problems.

The inspection was conducted by resident and regional inspectors. This inspection identified three No Color findings, one of which involved a Non-Cited Violation. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

Miscellaneous

- No Color. The inspectors concluded that in general the corrective action program was a complete program containing all the necessary attributes to successfully identify and correct issues at Quad Cities. However, over the past year there were several instances of difficulties with problem identification, evaluation and resolution. Most of these were documented in previous findings and violations in inspection reports. In general, these issues have been recognized, and actions have been taken to address them. For most of the issues it is too soon to fully evaluate the effectiveness of these actions so effectiveness is still to be determined. During this inspection, three areas of corrective action program problems were identified. These were the failure to properly implement the M&TE program, several instances when condition reports should have been written and they were not, and, failure to address common causes for similar steam release events on the reactor vessel during the October refueling outage, and in the April maintenance outage.

- No Color. In April of 2001, the station Nuclear Oversight staff identified that measurement and test equipment which was found to be out-of-calibration during post-use verifications was not evaluated as required by plant procedure. Also, condition reports on these out-of-tolerance conditions were not written when required by procedures. The licensee initiated a review which identified 159 items of out-of-tolerance equipment which had not been evaluated appropriately. The use of these items was evaluated and appropriate recovery actions taken. Failure to assure that measuring and test equipment used in 2000 and 2001 was properly calibrated was a Non-Cited Violation of 10 CFR 50, Appendix B.

  The inspectors reviewed the significance of not evaluating out-of-tolerance equipment and determined that the issue was more than a minor issue because if left uncorrected, the issue could become a more significant safety concern. However, since this is a corrective action concern, and no specific cornerstone was impacted, this item is assigned No Color.

- No Color. In May of 2001, an inspector observing a surveillance noted that instrument maintenance technicians had difficulty conducting calibrations of differential transmitters on the Unit 2 station blackout diesel air intake filter differential pressure detectors. The results were not repeatable and indicated some out-of-tolerance readings on both instruments. No condition reports were generated for either the difficulty with the tests or the apparent out-of-tolerance results until inspectors intervened. Condition Report Q2001-1549 was issued 12 days later and subsequently, Condition Reports Q2001-1474 and Q2001-1475 were written for the out-of-tolerance readings.

  The inspectors reviewed the significance of not identifying test problems on condition reports and concluded that the issue was more than a minor issue because if left uncorrected, the issue could become a more significant safety concern. The actual effect on the station blackout diesel was minimal since it did not directly impact operation of the equipment and another diesel was available. However, this corrective action finding is a cross-cutting issue for corrective action process performance and is assigned No Color.

- No Color The corrective actions to prevent recurrence for an event that resulted in an inadvertent steam release during a breach of the reactor pressure boundary proved to be ineffective to prevent a similar event that occurred six months later. Additionally, corrective actions for the second event were narrow in scope and did not address the aspects in common with the first event. Condition report Q2001-01976 was issued to address the potential common issues.

  The inspectors concluded that the issue was more than minor since the failure to fully identify and correct deficiencies could be reasonably viewed as a precursor to a significant event. The inspectors reviewed the applicability of the issue with respect to program cornerstones and determined that the issue did not impact a cornerstone. However, this issue contained extenuating circumstances in that the full extent of condition for the October event was not completely identified and corrected, allowing a similar event in April. The combination of these two events indicates an adverse performance trend.

Report Details

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

.1 Corrective Action Program Review

a. Inspection Scope

The inspectors conducted a review of the Quad Cities process for identifying and correcting problems at the plant. The problem identification program and its effectiveness were evaluated by reviewing issues identified in previous NRC inspections, selected corrective action program documents and records, and discussing the program with licensee personnel. The inspection also included a review of applicable procedures and records for indication of corrective action effectiveness. The reviews evaluated the effectiveness of the program at each stage in the process for identifying issues, documenting and evaluating the issues, and assigning appropriate corrective actions and tracking them to completion.

b. Findings

The inspectors concluded that in general the overall corrective action program was a complete program containing all necessary attributes and successfully identifying and correcting issues at Quad Cities. However, over the past year there were several instances of difficulties with problem identification, evaluation and resolution. Most of these were documented in previous findings, violations and inspection reports. In general, these issues have been recognized, and actions have been taken to address them. For most of the issues it is too soon to fully evaluate the effectiveness of these actions so effectiveness is still to be determined. During this inspection, three areas of corrective action program problems were identified. Those were:

The failure to properly implement the measurement and test equipment (M&TE) program for evaluating deficient M&TE equipment when returned from the calibration lab that was identified by the Quad Cities Nuclear Oversight organization.

Several instances identified by inspectors when condition reports should have been written and they were not. These instances included such problems as poor practices in checking station blackout diesel generator instruments, a broken fire door latch, and some operator log entries.

Failure to recognize common causes for a lack of coordination event that resulted in opening the wrong head vent joint with pressure on the vessel during the October refueling outage, and a similar lack of coordination event in the April maintenance outage that resulted in burping steam out of the electromatic relief valve flange.

.2 Effectiveness of Problem Identification

a. Inspection Scope

The inspectors reviewed inspection reports issued over the last year, various condition reports (CR) and corrective action documents, industry operating experience documents, audits, and self-assessments in order to determine if problems were being identified at the proper threshold and entered into the corrective action process. The documents listed in Attachment 1 were used during the review.

b. Findings

Several recent examples of inadequate use of the corrective action process by the plant staff brought into question the level of performance in the identification and tracking of corrective actions. Notable examples were identified by inspectors and nuclear oversight.

Overdue Measurement and Test Equipment (M&TE) Evaluations

In April of 2001, the station Nuclear Oversight staff identified that measurement and test equipment which was found to be out-of-calibration during post-use verifications was not evaluated as required by procedure MA-AA-AD-6-00040, Rev. 1, "Control of Portable M&TE." Also, for a period of time, condition reports on these out-of-tolerance conditions, required by procedures, were not written. The requirement to write condition reports was later removed in a program revision prior to the identification of these issues. The licensee initiated Condition Report Q2001-01239 for this issue and a review identified 159 items of out-of-tolerance equipment which had not been evaluated appropriately. The use of these items was evaluated and appropriate recovery actions taken.

10 CFR 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment," requires that measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits. Failure to assure that measuring and test equipment used in 2000 and 2001 was properly calibrated, was a violation of Appendix B. However, this licensee-identified and corrected violation is being treated as a Non-Cited Violation, **(NCV 254/01-09-01; 265/01-09-01)**, consistent with Section VI.A.1 of the NRC Enforcement Policy.

The inspectors reviewed the significance of not evaluating out-of-tolerance equipment and determined that the issue was more than a minor issue because if left uncorrected, the issue could become a more significant safety concern. However, since this is a corrective action concern and no specific cornerstone was impacted, this item is assigned **No Color**.

Instrument Maintenance Calibration Issues

In May of 2001, an inspector observing a surveillance, noted that instrument maintenance technicians had difficulty conducting calibrations of differential transmitters on the Unit 2 station blackout diesel air intake filter differential pressure detectors. The inspector discussed the problem with the mechanics and, when trying to repeat several calibration points, the results were not repeatable and indicated some out-of-tolerance readings on both instruments. No condition reports were generated for either the difficulty with the tests or the apparent out-of-tolerance results. Out-of-tolerance equipment is an example of problems to be documented on condition reports listed in Nuclear Generation Group procedure AD-AA-106, Revision 3, "Corrective Action Program Process Procedure." Condition report Q2001-1549 was issued 12 days later and subsequently, condition reports Q2001-1474 and Q2001-1475 were written for the out-of-tolerance readings.

The inspectors reviewed the significance of not identifying test problems on condition reports and concluded that the issue was more than a minor issue because if left uncorrected, the issue could become a more significant safety concern. The actual effect on the station blackout diesel was minimal since it did not directly impact operation of the equipment and another diesel was available. However, this corrective action finding is a cross-cutting issue for corrective action process performance and is assigned **No Color**.

Action Tracking

A review of the action tracking process by the corrective action program administration staff identified that some action tracking items had not been entered into the computer tracking system. The cause was attributed to the transfer of item responsibility from the maintenance department to engineering. Staff in each organization assumed that the issue entry would be done by the other organization, indicating a lack of ownership and responsibility for the process. This issue was a result of follow-up on earlier missed action tracking items. The issue was identified, a root cause evaluation was performed, and the identified causes corrected by the licensee.

Inspector Identified Issues

Through the year of June 2000 to June 2001, inspectors identified examples of deficiencies in the plant for which condition reports were not initiated including a broken fire door latch that was not restraining the door and deficiencies documented in operator log entries (various dates). Also, in 2001, inspectors identified that the portable pumps described in the Final Safety Analysis Report for use with the ultimate heat sink were removed from the site without following the review process. Although the licensee staff was aware that this had occurred, no condition report was written until the NRC identified it. The licensee initiated condition reports for each issue, and wrote condition report Q2001-01665 for the collective concern. In addition, inspectors noted during meetings of the Management Review Committee that upper management was identifying many extent of condition deficiencies in condition reports that should have been raised by the staff before the issue reached the last barrier of upper management

review. The licensee wrote condition report Q2001-01573 on the inconsistent information provided for management reviews.

.3 Prioritization and Evaluation of Issues

a. Inspection Scope

The inspectors performed an independent assessment of the appropriateness of the assigned significance level (category) for a selected sample of condition reports. The significance level determines the type and timing of the cause evaluation to be performed. Other attributes reviewed by the inspectors included the adequacy of the root cause analyses, or apparent cause evaluations and the corresponding corrective action plans. A sample of corrective actions for Non-Cited Violations were also assessed.

The inspectors also reviewed the methods used by review committees at Quad Cities to verify the adequacy of compliance with regulatory requirements. These committees were the Event Screening Committee and the Management Review Committee. The review included the controlling procedures, selected records of activities, and attendance at selected group meetings. In addition, the functions, activities, and findings of the review groups were discussed with cognizant licensee personnel, including selected committee members.

b. Findings

No significant issues were identified regarding classification screening; however, previous inspections had identified weaknesses in some evaluations through the year. Examples included:

The supplemental inspection for performance indicators concluded that evaluations were not broad enough where an earlier event was not included and it appeared that human performance was not evaluated. The root cause evaluation was revised to indicate the inclusion of human performance.

Problems recurred which were related to not adequately venting the high pressure coolant injection (HPCI) system prior to putting it in service. This resulted in undesirable pressure transients. Early evaluations of the issue were not broad enough to prevent similar occurrences.

NRC identified weaknesses in operability evaluations performed for HPCI in 2000 and a sticking turbine control valve in 2001. Engineering training was conducted in response.

.4 Effectiveness of Corrective Actions

.4.1 Ineffective Corrective Actions To Prevent Recurrence of an Inadvertent Steam Release

a. Inspection Scope

The inspectors reviewed the root causes and corrective actions associated with the inadvertent release of steam from the reactor vessel during a maintenance activity that breached the reactor pressure boundary. The inspectors reviewed the following corrective action program documents associated with this event:

- Condition Report Q2000-03636, “Unplanned Contamination of the Refuel Floor During Q1R16";
- Condition Report Q2000-04337, “Procedural Compliance During the Reactor Head Vent Removal”;
- Condition Report Q2000-04486, “NRC Green NCV, Steam Release During Reactor Head Vent Piping Removal”; and
- Root Cause Report for Condition Report Q2000-04337.

The inspectors reviewed a subsequent similar event in April 2001 associated with the inadvertent release of steam from the reactor vessel during a maintenance activity that breached the reactor pressure boundary. The inspectors reviewed the following procedures and corrective action program documents associated with this event:

- Condition Report Q2001-01270, “First Degree Arm Burns From Steam Burp - 3B Electromatic Relief Valve”;
- Condition Report Q2001-01274, “Personnel Contamination Event 02 - Mechanical Maintenance Department Individual Contaminated Upper Body During 3B Electromatic Relief Valve Removal”;
- Apparent Cause Evaluation for Condition Report Q2001-01270;
- Quad Cities Mechanical Maintenance Procedure (QCMM) 0203-01, “Main Steam Safety Valve Removal and Installation,” Revision 8;
- QCMM 0203-21, “Electromatic Relief Valve Removal and Installation,” Revision 6; and
- QCMM 0203-31, “Target Rock Safety Relief Valve Removal and Installation,” Revision 9.

b. Findings

The corrective actions to prevent recurrence for an event that resulted in an inadvertent steam release during a breach of the reactor pressure boundary proved to be ineffective to prevent a similar event that occurred 6-months later. Additionally, corrective actions for the second event were narrow in scope and did not address the aspects in common with the first event. The significance of this finding could not be determined using the significance determination process; therefore, this issue is assigned No Color.

On October 14, 2000, during disassembly of the Unit 1 reactor for refueling outage 16, reactor service technicians opened a flanged connection of the reactor head vent piping with approximately 8 pounds per square inch steam pressure still in the reactor vessel

and initiated a steam release to the refueling floor area which lasted for several hours. The licensee revised the outage schedule after encountering complications with raising reactor vessel water level. As a result, the licensee stopped the reactor vessel water level increase at 135-inches. Considerable heat energy existed in the upper portions of the reactor vessel walls, reactor vessel head, and reactor upper internals maintaining the 8 pounds per square inch steam pressure.

The root cause analysis of the event identified a number of procedural, process, and communication problems. Personnel safety, procedure adherence, procedure adequacy, and lack of control of reactor vessel disassembly activities were all concerns brought out by this event. A Non-Cited Violation for an inadequate procedure for vessel disassembly and the failure to follow procedures during vessel disassembly was issued in Inspection Report 50-254/00-15, Section 1R20.

As part of the root cause evaluation for this event, the licensee assessed the extent of the condition. The licensee's evaluation identified similar deficiencies at two of the company's other stations, but concluded that no other reactor maintenance or refueling procedures existed with similar deficiencies.

On April 27, 2001 during a Unit 1 maintenance activity to remove and replace the 3B electromatic relief valve, a mechanic received third degree burns to the forearm and became contaminated following inadvertent release of steam from the reactor vessel. The event occurred when operators added water to the vessel concurrent with the removal of a foreign material exclusion barrier by a mechanic in the drywell. The rising water came into contact with the hot reactor vessel wall and turned to steam. The steam vented from the reactor vessel through the 3B electromatic relief valve flange burning and contaminating the worker. As was the case in the October event, considerable heat energy existed in the upper portions of the reactor vessel walls, reactor vessel head, and reactor upper internals due to the short duration of time since the reactor shutdown.

The inspectors reviewed the two events, noting a number of similarities between the two events. For example:

- both events occurred shortly after a unit shutdown with considerable heat energy in the upper portions of the reactor vessel walls, reactor vessel head, and reactor upper internals;
- both events occurred as a result of the performance of maintenance activities that breached the reactor pressure boundary with considerable energy in the upper regions of the reactor vessel;
- both events occurred when operators were actively maintaining reactor water level;
- both events contained elements of poor communications and coordination of activities between individuals and/or work groups; and
- both events involved reactor maintenance procedures that did not contain adequate detail regarding reactor water level and pressure conditions, and limitations and mitigating actions required for breaching of the reactor pressure vessel boundary.

The inspectors noted that the licensee's extent of condition review for the October event concluded that no other reactor maintenance or refuel procedures contained similar deficiencies. However, the inspectors reviewed QCMM 0203-21, a reactor maintenance procedure used for the removal for the 3B electromatic relief valve, and determined it contained similar deficiencies as the reactor disassembly procedure. For example, QCMM 0203-21 also lacked adequate detail regarding reactor water level and pressure conditions, and limitations and mitigating actions required for the removal of a relief valve from the reactor pressure vessel boundary. The inspectors concluded that the licensee's extent of condition review failed to identify the susceptibilities of the reactor safety valve and relief valve removal and installation procedures. A more rigorous look at all reactor maintenance activities that could be performed under similar plant conditions with respect to the reduced shutdown to the vessel breach time could have prevented the April event.

The licensee performed an apparent cause evaluation (ACE) following the April event. The extent of condition section of the ACE stated only that this condition could apply to either Unit 1 or Unit 2. The extent of condition section of the condition report stated that this event was an isolated incident due to the unusual plant conditions. The licensee corrected for the event by entering the details associated with the event into the "outage lessons learned" data base and by adding a caution statement to the procedure used to raise water level. Based on a review of the corrective actions and the extent of condition review for the April event, the inspectors determined that the licensee failed to recognize the need for a rigorous and broadened scope of review for the extent of condition for this event also.

The inspectors reviewed the licensee's failure to fully identify the extent of condition from the October and April events and determined that the issue was more than minor since the failure to identify and correct deficiencies could be reasonably viewed as a precursor to a significant event. The inspectors reviewed the applicability of the issue with respect to program cornerstones and determined that the issue did not impact a cornerstone. However, this issue contained extenuating circumstances in that the full extent of condition for the October event was not completely identified and corrected, allowing a similar event in April. Furthermore, the evaluation by the licensee with regards to the April event did not include the October event. The licensee issued condition report Q2001-01976, "Potential Commonalities Between Early Outage Issues," to address this concern. The combination of these two events indicates an adverse performance trend and a **No Color** finding.

4.2 Lack of Timeliness in Problem Resolutions

a. Inspection Scope

During review of a sample of previously identified corrective action issues, the inspectors assessed the adequacy of corrective actions to properly address the identified cause(s) of the issue or event. The inspectors also verified the implementation of a sample of corrective actions. The samples were selected based on their importance in reducing operational risks.

b. Findings

There were issues identified in the last year where the problem resolution was not timely. Corrective actions in the form of modifications to correct conditions such as the lack of a seal-in feature for the high pressure coolant injection system (HPCI) initiation signal and lack of a trip function for the HPCI motor speed controller were not implemented until a repeat occurrence with the HPCI oil pump cycling in 2000 and special evaluations were initiated for performance indicators in August 2000. Safety evaluations for battery load stripping issues were not completed until an NCV was issued in August of 2000. Fire protection issues from the triennial fire protection inspection were other examples of identified departures from the design basis that were and had not yet been resolved, although changes to the Final Safety Analysis Report are planned. The other issues have also been the subject of previous reports and discussions and corrective actions are complete or planned to resolve them.

.5 Assessment of Safety Conscious Work Environment

a. Inspection Scope

During the conduct of interviews, document reviews and observations of Quad Cities activities, the inspectors looked for evidence that suggested plant employees may be reluctant to raise safety concerns. The inspectors also discussed with licensee staff the evaluation and resolution of issues that were addressed by the Quad Cities employee concerns program in the past year.

b. Findings

Although there were human performance issues with generating condition reports, there was no indication that employees had concerns about writing them. There were no issues or findings associated with this inspection area.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. T. J. Tulon and other members of licensee management in an exit meeting on May 30, 2001. Licensee management acknowledged the findings presented and agreed that no proprietary information was provided to the inspectors.

PARTIAL LIST OF PERSONS CONTACTED

Exelon Nuclear

G. Barnes, Station Manager
W. Beck, Executive Assistant to the Site Vice President
B. Boerschig, Engineering Director
R. Chrzanowski, Nuclear Oversight, Assessment Manager
M. McDowell, Operations Manager
P. O'Neal, Corrective Action Program Analyst
J. Purkis, System Engineering Manager
T. Tulon, Site Vice President
G. Waldrep, Corporate CAP Manager

IDNS

R. Ganser, IDNS Resident Inspector

NRC

S. Reynolds, Deputy Director, Division of Reactor Projects, RIII
C. Miller, Senior Resident Inspector
M. Ring, Chief, Projects Branch 1

ITEMS OPENED, CLOSED, AND DISCUSSED

OPENED

50-254/01-09-01;50-265/01-09-01	NCV	Failure to assure that measuring and test equipment was properly calibrated

CLOSED

50-254/01-09-01; 50-265/01-09-01	NCV	Failure to assure that measuring and test equipment was properly calibrated

LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection, including documents prepared by others for the licensee. Inclusion of a document on this list does not imply that NRC inspectors reviewed the entire documents, but, rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. In addition, inclusion of a document on this list does not imply NRC acceptance of the document, unless specifically stated in the body of the inspection report.

Procedures

ComEd AD-AA-106, Revision 3; Corrective Action Program (CAP) Process Procedure
ComEd CAP-3, Revision 4; Root Cause Investigation and Report Handbook
ComEd CAP-6, Revision 3; Coding & Trending
ComEd CAP-8, Revision 2; Apparent Cause Evaluation (ACE) Handbook
ComEd CAP-10, Revision 2; Corrective Action Program Guidance & Expectations Handbook
QCOP 0300-14
QCOS 1600-36
QCOS 1600-38
QCOS 1600-44
QCOS 1600-48
QCOP 5750-02
QCOS 7500-04
QCOS 7500-08

Condition Reports (Also Associated ACE's, ATs and/or Root Cause)

Q1999-03333	Q2000-01214	Q2000-01217	Q2000-01239	Q2000-01741
Q2000-01768	Q2000-01824	Q2000-01885	Q2000-01931	Q2000-02139
Q2000-02154	Q2000-02200	Q2000-02304	Q2000-02335	Q2000-02372
Q2000-02388	Q2000-02414	Q2000-02510	Q2000-02832	Q2000-02950
Q2000-02954	Q2000-02864	Q2000-02832	Q2000-02993	Q2000-02994
Q2000-03428	Q2000-03472	Q2000-03512	Q2000-03588	Q2000-03649
Q2000-03636	Q2000-03979	Q2000-04089	Q2000-04318	Q2000-04337
Q2000-04344	Q2000-04469	Q2000-04489	Q2001-00055	Q2001-00059
Q2001-00111	Q2001-00118	Q2001-00125	Q2001-00169	Q2001-00176
Q2001-00333	Q2001-00344	Q2001-00381	Q2001-00385	Q2001-00387
Q2001-00413	Q2001-00656	Q2001-00701	Q2001-00937	Q2001-01007
Q2001-01009	Q2001-01084	Q2001-01109	Q2001-01118	Q2001-01141

Q2001-01152	Q2001-01170	Q2001-01177	Q2001-01190	Q2001-01197
Q2001-01203	Q2001-01221	Q2001-01229	Q2001-01245	Q2001-01250
Q2001-01266	Q2001-01270	Q2001-01274	Q2001-01282	Q2001-01340
Q2001-01341	Q2001-01380	Q2001-01382	Q2001-01392	Q2001-01428
Q2001-01435	Q2001-01437	Q2001-01441	Q2001-01455	Q2001-01456
Q2001-01459	Q2001-01461	Q2001-01468	Q2001-01469	Q2001-01471
Q2001-01472	Q2001-01473	Q2001-01474	Q2001-01475	Q2001-01480
Q2001-01481	Q2001-01484	Q2001-01485	Q2001-01490	Q2001-01494
Q2001-01495	Q2001-01497	Q2001-01498	Q2001-01499	Q2001-01502
Q2001-01505	Q2001-01508	Q2001-01510	Q2001-01511	Q2001-01512
Q2001-01513	Q2001-01514	Q2001-01518	Q2001-01521	Q2001-01522
Q2001-01523	Q2001-01532	Q2001-01544	Q2001-01546	Q2001-01551
Q2001-01552	Q2001-01553	Q2001-01555	Q2001-01556	Q2001-01598
Q2001-01599	Q2001-02241	Q2001-02915	Q2001-02916	Q2001-02917
Q2001-02918	Q2001-02919	Q2001-04486	Q2001-04487	Q2001-04489

Misc ACEs, AR's, AT's

ACE 411850-14; Inadequate Operability Evaluation for RPS Turbine Valve 2/14/01
AR 17234; Safeguards Cabinet Found Open
AR 42738 - CR Q2001-00157
AT 17234; Q1999-03333 and associated documents
AT 31648; Root Cause Inadequate Human Performance
AT 317772 Safety System Functional Failures 9/8/00
AT 42183-32; Maintenance lube
AT 42183-40; 89-13 Heat Sink
AT 42567-06; RX Eng and Fuel Management
AT 44542 02-01; Q2001-00381
AT 46392-09; Q2001-00656; ASME Non-Compliance for Fuel Coding

Miscellaneous Root Causes:

Rev. 2 of Q2000-01214 HPCI Logic Root Cause
Rev. 3 of Q2000-01214 HPCI Logic Root Cause
Rev. 4 of Q2000-01214 HPCI Logic Root Cause

Miscellaneous Documents:

Quad Cities Ltr No. SVP-99-191; IGSCC Welds, November 3, 1999
Quad Cities Ltr No. SVP-01-009; Weld Overlay Repair Welds, January 31, 2001
4/12 1850 S.E. log 1-1053-H; 1C RHR failed to trip during a surveillance
NRR TAC No. MB0312; Weld Overlay Deferrals, November 7, 2000
WR 990200438; U1 RCIC Relay 1-13A-K21

Operator Work Arounds & Challenges

99-004-OC
99-012-OC
99-013-OC
99-015-OWA
99-022-OC
00-003-OC
00-010-OWA
00-011-OWA
00-012-OWA
00-016-OC
00-017-OC
00-018-OC
00-021-OC
01-001-OWA
01-004-OWA
01-008-OC
01-009-OC

Self Assessments:

Nuclear Oversight NOA-QC-00-4Q, dated January 23, 2001
Nuclear Oversight First Quarter 2001 dated 5/14/01

LIST OF ACRONYMS USED

ACE	apparent cause evaluation
CAP	corrective action program
CR	condition reports
HPCI	high pressure coolant injection
M&TE	measurement and test equipment
NCV	Non-Cited Violation
OA	Other Activities
PARS	Publicly Available Records
QCMM	Quad Cities Mechanical Maintenance Procedure
SDP	Significance Determination Process