March 8, 2001

Mr. Oliver D. Kingsley
President, Nuclear Generation Group
Commonwealth Edison Company
ATTN: Regulatory Services
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: BYRON - NRC INSPECTION REPORT 50-454/01-03(DRS);50-455/01–03(DRS)

Dear Mr. Kingsley:

On February 9, 2001, the NRC completed the first baseline Safety System Design and Performance Capability inspection at your Byron Generating Station. The results of this inspection were discussed on that day with members of your staff. The enclosed report presents the results of this inspection.

The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, this inspection focused on the design and performance capability of the component cooling water system to ensure it was capable of performing its required post-accident functions.

Based on the results of this inspection, no significant findings were identified.

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 this inspection.

Sincerely,

/RA by Roy J. Caniano Acting for/

John A. Grobe, Director
Division of Reactor Safety

Docket Nos. 50-454; 50-455
License Nos. NPF-37; NPF-66

Enclosure: Inspection Report 50-454/01-03(DRS);
50-455/01-03(DRS)

w/encl: D. Helwig, Senior Vice President, Nuclear Services
C. Crane, Senior Vice President, Nuclear Operations
H. Stanley, Vice President, Nuclear Operations
R. Krich, Vice President, Regulatory Services
DCD - Licensing
W. Levis, Site Vice President
R. Lopriore, Station Manager
P. Reister, Regulatory Assurance Manager
M. Aguilar, Assistant Attorney General
State Liaison Officer
State Liaison Officer, State of Wisconsin
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-454; 50-455
License Nos:	NPF-37; NPF-66
Report No:	50-454/01-03(DRS); 50-455/01-03(DRS)
Licensee:	Commonwealth Edison Company
Facility:	Byron Generating Station, Units 1 and 2
Location:	4450 N. German Church Road Byron, IL 61010
Dates:	January 22 - February 9, 2001
Inspectors:	R. Daley, Reactor Engineer M. Farber, Reactor Engineer (Team Leader) J. Gavula, Reactor Engineer K. Green-Bates, Reactor Engineer K. O'Brien, Reactor Engineer R. Quirk, I&C Contractor R. Winter, Reactor Engineer
Approved by:	Ronald N. Gardner, Chief Electrical Engineering Branch Division of Reactor Safety

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas) reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

SUMMARY OF FINDINGS

IR 05000454-01-03(DRS); IR 05000455-01-03(DRS), 01/22/01 - 02/09/01, Commonwealth Edison, Byron Generating Station, Units 1 and 2. Safety System Design and Performance Capability.

The inspection was conducted by six regional engineering specialists and an engineering consultant. There were no findings of significance. The team identified one unresolved item relating to the potential for an unisolable reactor coolant system leak.

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity

There were no findings of significance

Report Details

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R21 Safety System Design and Performance Capability

Introduction

Inspection of safety system design and performance verifies the initial design and subsequent modifications and provides monitoring of the capability of the selected system to perform its design basis functions. As plants age, their design bases may be lost, such that an important design feature may be altered or disabled. The plant risk assessment model is based on the capability of the as-built safety system to perform its intended safety function successfully. This inspectable area verifies aspects of the mitigating systems and barrier integrity cornerstones for which there are no indicators to measure performance.

The objective of this safety system design and performance capability inspection was to assess the adequacy of calculations, analyses, other engineering documents, and operational and testing practices that were used to support the performance of the component cooling water (CCW) system during normal, abnormal, and accident conditions. The inspection was performed by a team of inspectors that consisted of a team leader, five Region III inspectors, and a contractor.

The CCW system was selected for this inspection, based upon:

- having a high probabilistic risk analysis ranking;
- having had recent significant modifications;
- not having received recent NRC review; and
- providing support to multiple systems.

The criteria used to determine the system's performance included:

- applicable technical specifications;
- applicable Updated Safety Analysis Report (USAR) sections;
- licensee responses and commitments to generic communications; and
- the system design basis document.

a. Inspection Scope

The following system and component inspection attributes were reviewed in detail:

System Needs

Process Medium - water
Energy Source - electrical power
Control System - initiation, control, and shutdown actions

Operator Actions - initiation, monitoring, control, and shutdown

System Condition and Capability

Installed Configuration - elevation and flow path operation
Design - calculations and procedures
Testing - flowrate, pressure, temperature, voltage, and current

Components

Two components were chosen for detailed review: the CCW pumps and the CCW surge tank. The surge tank is critical in that it is common to both trains. The following attributes were reviewed for both of the chosen components:

Component Degradation
Equipment/Environmental Qualification - temperature (pumps)
Vibration (pumps)
Equipment Protection - flood, missile and freezing (pumps)
Component Inputs and Outputs
Industry Operating Experience

b. Findings

.1 Component Cooling Water Return from the Reactor Coolant Pump Thermal Barrier Cooler

The inspectors identified an Unresolved Item (URI) regarding the licensee staff's change to the Updated Safety Analysis Report (USAR) requirements for one of two motor-operated valves in the component cooling water return line from the reactor coolant pump thermal barrier cooler. The URI involved component cooling water valve CC-9438 and a change to the USAR performance requirement that the valve shall be capable of closing against full reactor differential pressure that may be caused by a reactor coolant pump thermal barrier leak.

As a result of an early 1990 review of motor-operated valves associated with Generic Letter 89-10, "Safety-Related Motor Operated Valve Testing and Surveillance," the licensee identified that two component cooling water system motor-operated valves might not function during some accident scenarios. Specifically, Valves CC-9438 and CC-685, the inboard and outboard containment isolation valves on the component cooling water return line from the reactor coolant pump thermal barrier cooler, could not close against the full reactor coolant system differential pressure that would be present following a reactor coolant pump thermal barrier rupture. In response to the finding, the licensee implemented a design change to valve CC-685 to ensure that the valve could automatically close against full reactor coolant system differential pressure following a barrier rupture. However, the licensee did not modify the performance capabilities of Valve CC-9438, in part, due to the valve not receiving an automatic closure signal following a thermal barrier rupture.

During a 1997 internal assessment of the site engineering program, the licensee identified an apparent discrepancy between the USAR-assumed and the actual performance capabilities of Valve CC-9438. Specifically, the licensee identified that SAR Section 9.2.2.4.4 indicated that Valve CC-9438 was available to isolate a thermal barrier rupture in the event that Valve CC-685 did not automatically close following a sensed high-flow condition. Subsequent to the licensee-identified finding, the licensee staff performed an operability assessment of the finding and concluded that the system remained operable based upon the presence of another manually operated valve.

In 1998, the licensee developed and implemented a USAR change to provide editorial clarification in USAR Section 9.2.2.4.4. as to the equipment and procedures which were utilized to isolate a thermal barrier break. The inspectors reviewed the USAR change package, the associated 10 CFR Part 50.59 Safety Evaluation, GG-98-0200, and other related documents. Based upon the information included in the documents, the inspectors could not conclude that the USAR change did not represent an unreviewed safety question. Specifically, the inspectors could not determine if a thermal barrier break was considered a small break loss of coolant accident during initial plant licensing, thereby requiring the system design to include two safety-related motor-operated valves capable of isolating the rupture. In addition, the inspectors could not determine if the radiological consequences of an unisolable reactor coolant system leak, to that portion of the auxiliary building where the component cooling system surge tanks were located, was within the plant design basis.

As of the end of the inspection, the inspectors had requested NRC Headquarters assistance to resolve the licensing questions. In addition, the licensee's staff was reviewing the radiological design requirements for the auxiliary building ventilation system for the portion of the building housing the component cooling water system surge tanks. This issue will be tracked as an Unresolved Item (050-454/2001-03-01; 050-455/2001-03-01).

The inspectors performed an initial assessment of the finding to determine if the finding should be analyzed by the Significance Determination Process. The finding was considered to have a credible impact on safety due to the potential for a small break loss of coolant accident (a rupture of the thermal barrier) concurrent with a single failure of Valve CC-685, the outboard containment isolation valve, to result in an unisolable release from the reactor coolant system. Such a release would bypass the containment barrier causing a release of reactor coolant water and radioactivity directly to the auxiliary building and potentially to the environment. A Phase 2 evaluation of the finding will be conducted following NRC Headquarters resolution of the licensing questions associated with the Unresolved Item.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed condition reports, action tracking requests, self-assessments, and Nuclear Tracking System items associated with component cooling water design

issues to verify that the licensee had an appropriate threshold for identifying design issues. The inspectors also evaluated the effectiveness of the corrective actions to the identified issues, including the engineering justification for operability, as applicable.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. D. Wozniak, and other members of licensee management and staff, in an exit meeting on February 9, 2001. The licensee acknowledged the information and findings presented. The inspectors identified the proprietary information reviewed during the inspection and questioned the licensee as to whether proprietary information had been retained. The inspectors also discussed the potential for proprietary information to be included in the inspection report. The licensee confirmed that no proprietary information was retained at the completion of the inspection. The licensee concurred that the proposed inspection report content would not compromise any proprietary information.

.2 Additional Conference Calls with the Licensee

A conference call was held on February 15, 2001, with Mr. D. Wozniak, to discuss the inclusion on an unresolved item relating to the potential for an unisolable reactor coolant system leak as described in section 1R21.b.1. Mr. Wozniak acknowledged the issue.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. Adams, System Engineering Manager
R. Blaine, Radiation Protection Manager
D. Brindle, Engineering Rapid Response Team
D. Combs, Security Manager
G. Contrady, Engineering Programs Supervisor
J. Dempsey, Programs Engineering
R. Deppi, Nuclear Oversight Manager
D. Dillenger, Primary Group Engineering
R. Friedel, Balance of Plant Supervisor
W. Grundmann, Executive Asst. to Station Manager
E. Hernandez, Primary Systems Supervisor
M. Kelly, Maintenance Specialists
J. Kramer, Work Control Manager
S. Kuczynki, Maintenance Manager
R. Lee, Mechanical Systems Engineering, Downers Grove
R. Lopriore, Station Manager
V. Naschansky, Electrical Engineering Supervisor
D. Nyman, Shift Technical Advisor
K. Passmore, Asst. Engineering Supervisor
W. Pershiazzi, Mechanical Engineering Supervisor
P. Reister, Regulatory Assurance Manager
T. Roberts, Design Engineering Manager
J. Roton, Regulatory Assurance
D. Sargent, Mechanical Design Engineering
T. Schuster, Chemistry Manager
M. Simmons, Primary Group Engineering
D. Wozniak, Engineering Manager

NRC

R. Caniano, Deputy Director, DRS
R. Gardner, Branch Chief, DRS
B. Kemker, Resident Inspector
M. Jordan, Branch Chief, DRP
T. Tongue, Project Engineer, DRP

ITEMS OPENED, CLOSED AND DISCUSSED

Opened

(URI) 50-454/2001-03-01	Potential unisolable reactor coolant system leak
(URI) 50-455/2001-03-01	Potential unisolable reactor coolant system leak

Closed

None

Discussed

None

LIST OF ACRONYMS USED

CCW	Component Cooling Water
CR	Condition Report
FASA	Focus Area Self-Assessment
URI	Unresolved Item
USAR	Updated Safety Analysis Report

LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings.

Calculations

- 4391/19Q-15, Calcs for Justification of Electrical Separation Distance Between Safety-Related and Non-Safety-Related Raceways, Revision 0, September 17, 1985
- Report No. 17769-1, Test Report on Electrical Separation Verification Testing for Sargent & Lundy Engineers for Use in CECo's Byron and Braidwood, Units 1 & 2, Nuclear Power Plants, August 23, 1985
- S&L Calc. 4391/19AN-3, Protective Relay Settings for 4.16 kV ESF Switchgear, Revision 6, January 26, 1999
- S&L Calc. 4391/19AJ-4, 480V Motor Control Center (MCC) Circuit Breaker Selection, Revision 1, July 18, 1984
- S&L Calc. 4391/19AQ, pg. 17, Coordination for Westinghouse Type HFB Breaker, June 15, 1970
- S&L Calc. 4392/19AK-2, Review of CC, CS and AF Pumps' Motor Current, Revision 0, March 21, 1986
- S&L Calc. No. G-61, Calc. For General Warehouse Procured Cable Ampacity, Revision 1, October 17, 1994
- CC-SSL-01, Safety System Limit for FIS-CC064 - Component Cooling Water to Penetration Cooling Isolation, Revision 0, dated March 27, 1989
- CC-SSL-02, Safety System Limit for LS-CC072, 073 - Component Cooling Water Surge Tank CC Pump Trip Level Setpoint, Revision 0, dated March 27, 1989
- SM-CC064, Reactor Penetration Cooling Flow Switch Setpoint Analytical Limit, Revision C, dated November 16, 1990
- SM-CC072, Component Cooling Water Surge Tank Level Switch Indication and Setpoint Uncertainty, Revision C, dated November 16, 1990
- SM-CC073, Component Cooling Water Surge Tank Level Switch Indication and Setpoint Uncertainty, Revision C, dated November 16, 1990
- SSCR 87-125, Change Overload Test Heaters from FH28 to FH29 for Valve 1CC9438, Revision 3, March 17, 1987
- SSCR 95-076, Instantaneous Trip Setting for Molded Case Circuit Breaker Feeding MOV 1CC685
- SSCR 95-080, Instantaneous Trip Setting for Molded Case Circuit Breaker Feeding MOV 2CC685
- BYR 96-021, Circuit Breaker Sizing and Settings for MOVs AF013A-H, CC685, CS007A/B, and RH610/611, Revision 1, March 29, 1996
- 004-E-018-CC, Byron 1 - MOV Terminal Voltage Calculation, Revision 2, September 25, 1992
- 004-E-002-CC, Byron 2 - MOV Terminal Voltage Calculation, Revision 3,December 3, 1993
- WOG-DDP-5100873, Effect of Reduced SW Flow on CCW Temperatures, Revision 1, August 8, 1975
- WOG-DDP-5103862, Report 070801, Thermal Calculations For CAE Component Cooling Water Heat Exchanger, Revision 0, July 25, 1983
- S&L-4.1.1.12, Seismic Input for CCW Heat Exchangers, Revision 5, July 10, 1986

- MAD 87-0829, Overpressurization of CC Surge Tank Analysis, Revision 0, September 9, 1987
- GB-CC-082881, Component Cooling System Heat Loads and Nozzle Velocities, Revision 1, May 24, 1988
- PSAG-223, Evaluation of Component Cooling Water System Over pressure, PIF. No. 4542009402700, Revision 0, October 24, 1994
- EMD-045602, Engineering Calculation for Moderate Energy Pipe Crack Check, Revision 00, October 18, 1983
- CC-88-01, Calculation for Component cooling System Surge Tank Vent Capacity, July 21, 1988
- CC-MP-01, Verification of CC System Overpressure Protection, Revision 3, December 15, 1988
- MAD 89-0189, Component Cooling System Overpressurization Analysis, Revision 0, October 25, 1989
- NED-M-MSD-019, Byron Ultimate Heat Sink Cooling Tower Basin Temperature Calculation: Part VII, Revision 0, March 2, 1992
- BYR2000-014, Byron Uprate Project - Post LOCA Component Cooling Water System Temperature Analysis, Revision 0, March 31, 2000
- BYR2000-136, Voltage Drop Calculation for 4160V Switchgear Breaker Control Circuits, Revision 0, dated January 9, 2001

Condition Reports Initiated as a Result of Inspection

- B2001-00335, USFAR Table 9.2-67 Contains a Typo for Initial CC Flow to RH HX, January 24, 2001
- B2001-00338, Exhaust Elbow Missing from Solenoid on Valve 1CC017, January 24, 2001
- B2001-00339, BOP CC-14 Precaution D.2 May not be Appropriate
- B2001-00340, Clamp Mounted on Vent Duct, January 24, 2001
- B2001-00341, EWCS Equipment Name Description for TIS-0671A, 0671B and 0672, January 24, 2001
- B2001-00352, Drawings incorrectly Show 1/2FIS-685A as Non-Safety, January 25, 2001
- B2001-00353, PMT Field from WR Cover Sheet is Potentially Misleading, January 25, 2001
- B2001-00362, Errors in CC System Calculations Related to Penetration Cooling Flow Instruments, January 25, 2001
- B2001-00363, Instrument Calibration Frequency not Consistent with Accuracy Calculation, January 25, 2001
- B2001-00368, Calculation has Input from an Unidentified Source, January 26, 2001
- B2001-00372, Acceptability of Other Train/Unit or Similar Equipment not Addressed, January 26, 2001
- B2001-00382, Calculation 004-E-018-CC, MOV Terminal Voltage Calc, was not Revised, January 26, 2001
- B2001-00383, Modification M6-1-86-0186, January 26, 2001
- B2001-00402, SSD & PC 1CC158 Socket Weld Adequate Profile, January 27, 2001
- B2001-00410, Non-Conservative Error, Unclear Assumption Found in Calculation, January 29, 2001
- B2001-00411, BAR For RH Low Seal Water Flow, January 29, 2001
- B2001-00413, BOA PRI, January 29, 2001

- B2001-00464, Performance of FASAs to Prepare the Station Inspection Activities Warrants Review, January 31, 2001
- B2001-00468, Operator Aux Building Unit ½ Logs, January 31, 2001
- B2001-00548, Drawing Error, February 5, 2001
- B2001-00551, Error Found During Review of MAD 87-0829, February 5, 2001
- B2001-00553, Input Perimeter Discrepancy Between Two Voltage Drop Calculations for Valve 2CC685, February 5, 2001
- B2001-00568, CC BARs for Low Flow Condition, February 6, 2001
- B2001-00591, Unavailable Motor Reversal Study Documentation, February 6, 2001
- B2001-00593, Calculation CC-88-01 Should Have Been Voided, February 7, 2001
- B2001-00594, Suction/Discharge Valves not Identified in 1/2BOSR 7.7.1-1, February 7, 2001
- B2001-00604, CC Flowpath Concern in BEP ES 1.3, February 8, 2001
- B2001-00607, 1CC9467C Incorrect Description in 1BOSR 7.7.1-1 February 8, 2001
- B2001-00614, NRC Concern with UFSAR DRP 7-257, February 8, 2001
- B2001-00616, EQ Documentation Discrepancy, February 8, 2001
- B2001-00620, CC System Temperature Could Exceed Value Considered in Current Piping Analysis, February 9, 2001

Condition Reports

- B1999-00491, Suspected CC Leakage inside U2 Containment, February 9, 1999
- B1999-00499, Draining of the CC Surge Tanks for Level Control, February 11, 1999
- B1999-00859, 1CC130B not Responsive to MCB Demand, March 12, 1999
- B1999-01021, 1D RCFC Heat Exchanger Effectiveness Surveillance Failure, March 23, 1999
- B1999-01113, Preconditioning Concerns with Valve Strokes, March 30, 1999
- B1999-01147, Snubber Test Failure, 1CC36028s & 1CV09066, March 31, 1999
- B1999-01199, Cracked Weld on CC Pump Suction Header Vent Valve, April 2, 1999
- B1999-01672, Typographical Errors in IST Program Valve Table, April 20, 1999
- B1999-01959, Spurious Closing of 1 & 2CC017 Vent on Unit 1 Reactor Trip May 13, 1999
- B1999-02128, Could not Perform Scheduled Calibration of 1LIT-0670 Due to Isolation Valve Sticking, June 2, 1999
- B1999-02531, Wrong Polarity of Wiring to Thermocouples, July 12, 1999
- B1999-02796, Concern with CC Valve Leakage Post LOCA, August 8, 1999
- B1999-02821, Unplanned LCOAR Entry during 2B RH ASME Run, August 10, 1999
- B1999-02951, CC Surge Tank Auto Makeup due to Draining after Freeze Seal Removal, August 20, 1999
- B1999-03134, High Level in Unit 1 and Unit 2 CC Surge Tank, September 7, 1999
- B1999-03166, CC Surge Tank Draining to Radwaste, September 9, 1999
- B1999-03422, Respiratory Concerns, October 2, 1999
- B1999-03579, Thermal Relief Valve 0CC9432 is Piped UP Incorrectly, October 15, 1999
- B1999-03765, Local Leak Rate testing Procedure Problems, October 26, 1999
- B1999-03945, Valve not Fully Open, November 1, 1999
- B1999-04354, CC Surge Tank Levels Erratic After U-0 Heat Exchanger Swap November 24, 1999
- B1999-04587, Voltage Drop for Common CC Pump Switchgear Breaker Closing Coils not Evaluated, December 15, 1999

- B1999-04607, Safety System Unavailability for RH Under-Reported in August, December 16, 1999
- B1999-04641, 1BOSR 6.3.3-1 Problems, December 20, 1999
- B2000-00025, Unit 2 CC Surge Tank Level Increase, January 4, 2000
- B2000-00054, Unit 2 CC Surge Tank Level Increase, January 6, 2000
- B2000-00150, 2SX004 MOV Declutched to Improve U2 CC HX Isolation, January 13, 2000
- B2000-00168, Relief Failed Set Pressure Test, January 14, 2000
- B2000-00231, Spare Valve Stem for 1/2CC9412A/B is Incorrect, January 26, 2000
- B2000-00411, GL 89-13 Trend Database Deficiency, February 7, 2000
- B2000-00412, GL 89-13 Inspection Interval non-adherence, February 7, 2000
- B2000-00903, Unexpected 1CC685 Closure and 1% CC Surge Tank Level Decrease, March 23, 2000
- B2000-00945, 1CC685 Auto Closed When 1CC9437A Opened for Slave Surveillance, March 29, 2000
- B2000-01052, 900 MHz Radio Traffic Outside of No Radio Zone Causes Instrument Alarms, April 10, 2000
- B2000-01419, 2B RH Pump and 2B CC Pump OOS Problems, May 16, 2000
- B2000-01512, Excess Letdown Heat Exchanger Venting, May 26, 2000
- B2000-01521, Cnmt Isolation Concern for CC System, May 27, 2000
- B2000-01543, MOV Program Self Assessment Finding, April 28, 2000
- B2000-01784, 5% Loss of CC Surge Tk Level Causing Termination of 1BOSR 3.2.7-606A, June 23, 2000
- B2000-01820, Component Cooling Water System Pressure, June 28, 2000
- B2000-01837, BOP CC-14, June 29, 2000
- B2000-01970, Unplanned LCOAR Entry - 1B RH Hx CC Flow Low/1CC9507B Throttled, July 14, 2000
- B2000-02135, NSAL 00-011 Velan 12-inch Swing Check Valve Weight, July 17, 2000
- B2000-02151, Unavailability Event Not Captured for NEI Indicator for RH for May 2000, August 2, 2000
- B2000-02968, 1A Diesel Generator Sequence Test Failures, October 5, 2000
- B2000-03253, Component Cooling Check Valve Closure, October 26, 2000
- B2000-03850, 2CC9502B, December 18, 2000
- B1998-04386, Unplanned LOCAR Entry for Crack on U-1CC HX Inlet Vent Valve Piping, Revision 0, October 12, 1998
- B1999-01199, Cracked Weld on CC Pump Suction Header Vent Valve, Revision 0, April 2, 1999
- B2001-00281, Potential Concern with Vent Valve 1CC158, Revision 0, January 19, 2001
- B2001-00284, P&ID Drawing Error 1CC158, Revision 0, January 20, 2001

Correspondence

- NDIT #BB-EXT-1441, Transmittal of Motor Operated Valve Thermal Overload Heater Sizing and Voltage Drop Calculations, Revision 0, February 24, 1999
- Westinghouse Letter No. EQT-AEA-146(83), Review of CCW Heat Exchanger Nozzle Loads, Revision 0, November 15, 1983
- Westinghouse Letter No. MED-PET-913(84), Review of CCW Heat Exchanger Nozzle Loads, Revision 0, September 27, 1984

- Sargent & Lundy Letter No. 2.1 7500-1.0 Seismic Local Floor Response in Area of CCW Heat Exchangers, Revision 0, July 10, 1986
- Westinghouse CAW-9900, Byron and Braidwood Stations - Units 1 and 2 Component Cooling water Heat Exchanger Seismic Re-Qualification, Revision 0, July 15, 1986
- Byron-99-5028, Failure of the Socket Weld on Unit 1 CC Heat Exchanger Header Vent Valve - SMAD Failure Analysis, Revision 1, February 23, 1999
- Sargent & Lundy Memorandum EMD-051013, Revised Nozzle Loads for Heat Exchangers from Subsystem 1CC01 - Safety Related, Revision 0, December 21, 1984
- Sargent & Lundy Design Information Transmittal BB-SED-0043, Seismic Loads for CCW Heat Exchangers, Revision 0, July 10, 1986
- Nonconformance Report 00-0079, Calculation SD/SA-CVA-83 has Incorrect Level Setpoints, Revision 0, October 2, 2000
- Report No. 070802, Structural Analysis Report For Westinghouse Component Cooling Water Heat Exchanger, Revision 4, August 2, 1986
- Letter from Sargent & Lundy to Commonwealth Edison “Nonconformance Report - NCR L-950 - Instrumentation Upgrades, dated November 19, 1987
- Letter from Sargent & Lundy to Commonwealth Edison “Nonconformance Report - NCR L-950 - Instrumentation Upgrades, dated February 2, 1988
- Letter from W. P. Dijstalbergen to R. Pleniewicz “CECo DR # 06-87-312, dated April 28, 1988
- PWR 5740, Letter from W. Kortier to J. Deress Regarding Potential Over pressurization Condition in Westinghouse-Supplied Component Cooling Water Systems, July 25, 1984
- PWR127109, Letter From Westinghouse to Commonwealth Edison Regarding CCW Interunit Sharing Post LOCA, December 19, 1988
- RFS-M-2320, Letter from L. Green to F. Malay Regarding Design Criteria and Functional Requirements for Component Cooling Water System, March 10, 1969
- CAW-7162, Letter From W. Kortier to J. Deress, Westinghouse Calculations on Remaining EOP Setpoints, March 30, 1984
- Letter, J. Bitel to T. Maiman Regarding Component Cooling Water Systems at PWR Stations, October 1, 1987
- Letter, B. Shelton to R. Pleniewicz Regarding Post LOCA Alignment of the Component Cooling Water System, June 30, 1988
- Letter, B. Shelton to R. Pleniewicz Regarding Post LOCA Alignment of the Component Cooling Water System, July 27, 1988
- Letter, B. Shelton to R. Pleniewicz Regarding Post LOCA Alignment of the Component Cooling Water System, May 23, 1989
- FSD/SS-M-4358, Westinghouse Letter to Commonwealth Edison Regarding Component Cooling System Misalignment, July 21, 1986

Electrical Drawings

- 6E-0-3351, Electrical Installation Auxiliary Building Plan El. 426'-0" Columns L-Q, 10-15, Revision BU, dated October 3, 2000
- 6E-0-3351CT2, Conduit Tabulation Auxiliary Building Plane El. 426'-0" Columns L-Q, 10-15, Revision W, dated September 29, 1992
- 6E-0-3351CT3, Conduit Tabulation Auxiliary Building Plane El. 426'-0" Columns L-Q, 10-15, Revision W, dated May 7, 1990
- 6E-0-3353, Electrical Installation Auxiliary Building Plan El. 426'-0" Columns L-Q, 21-26, Revision BY, dated June 20, 1997

- 6E-0-3361, Electrical Installation Auxiliary Building Plan El. 439'-0" Columns L-Q, 10-13, Revision DB, dated February 20, 1997
- 6E-0-3362, Electrical Installation Auxiliary Building Plan El. 439'-0" Columns L-Q, 13-23, Revision DN, dated June 8, 1989
- 6E-0-3667, Cable Pans Routing Auxiliary Building Plan El. 426'-0" Columns L-Q, 6-18, Revision BC, dated April 29, 1997
- 6E-0-3668, Cable Pans Routing Auxiliary Building Plan El. 426'-0" Columns L-Q, 18-30, Revision AE, dated September 7, 1989 (??)
- 6E-0-3671, Cable Pans Routing Auxiliary Building Plan El. 439'-0" Columns L-Q, 6-10, Revision AH, dated October 27, 1988 (??)
- 6E-0-3672, Cable Pans Routing Auxiliary Building Plan El. 426'-0" Columns L-Q, 6-18, Revision BC, dated April 29, 1997
- 6E-0-3674, Cable Pans Routing Auxiliary Building Plan El. 439'-0" Columns L-Q, 18-23, Revision AN, dated April 6, 1994
- 6E-0-3675, Cable Pans Routing Auxiliary Building Plan El. 439'-0" Columns L-Q, 23-26, Revision AR, dated January 15, 1992
- 6E-0-3676, Cable Pans Routing Auxiliary Building Plan El. 439'-0" Columns L-Q, 26-30, Revision AD, dated January 17, 1992
- 6E-0-4030CC01, Component Cooling Pump 0 (Div 11) - 0CC01P Schematic Diagram, Revision T, dated August 8, 1997
- 6E-0-4030CC02, Component Cooling Pump 0 (Div 12) - 0CC01P Schematic Diagram, Revision U, dated August 6, 1997
- 6E-0-4030CC03, Component Cooling Pump 0 (Div 21) - 0CC01P Schematic Diagram, Revision P, dated March 15, 1993
- 6E-0-4030CC04, Component Cooling Pump 0 (Div 22) - 0CC01P Schematic Diagram, Revision N, dated March 15, 1993
- 6E-0-4030CC05, Component Cooling Pump 0 (Div 11) - 0CC01P Schematic Diagram, Revision M, dated March 15, 1993
- 6E-0-4030CC06, Component Cooling Pump 0 (Div 12) - 0CC01P Schematic Diagram, Revision P, dated March 15, 1993
- 6E-0-4030CC07, Component Cooling Pump 0 (Div 21) - 0CC01P Schematic Diagram, Revision M, dated March 15, 1993
- 6E-0-4030CC08, Component Cooling Pump 0 (Div 22) - 0CC01P Schematic Diagram, Revision M, dated March 15, 1993
- 6E-0-4030CC09, Manual Operated Valves Schematic Diagram - CC System, Revision C, dated August 8, 1997
- 6E-0-4031CC01, Component Cooling Pump 0 Inboard and Outboard Bearing Temperature Loop Schematic Diagram, Revision A, dated November 21, 1980
- 6E-1-4030CC01, Component Cooling Pump 1A - 1CC01PA Schematic Diagram, Revision T, dated August 8, 1997
- 6E-1-4030CC02, Component Cooling Pump 1B - 1CC01PB Schematic Diagram, Revision T, dated August 8, 1997
- 6E-1-4030CC04, CCW From Reactor Coolant Pumps Thermal Barrier Isolation Valves 1CC9438 & 1CC685 Schematic Diagram, Revision N, dated September 11, 2000
- 6E-1-4030CC05, RHR Heat Exchanger 1A & 1B CC Water Isolation Valves 1CC9412A & B Schematic Diagram, Revision M, dated August 8, 1997
- 6E-1-4030CC06, Component Cooling to Reactor Coolant Pump Isolation Valves 1CC9413A & B Schematic Diagram, Revision K, dated August 8, 1997

- 6E-1-4030CC07, Component Cooling Water From RCP Isolation Valves 1CC9416 & 1CC9414 Schematic Diagram, Revision N, dated August 8, 1997
- 6E-1-4030CC08, Component Cooling Water to Unit 1 Equipment Isolation Valve 1CC9415 Schematic Diagram, Revision K, dated August 8, 1997
- 6E-1-4030CC09, Component Cooling Water Surge Tank Vent Valve 1CC017, Component Cooling Water to Excess Letdown HX Isolation 1CC9473A & B Schematic Diagram, Revision M, dated August 8, 1997
- 6E-1-4030CC10, Component Cooling Discharge Header Crosstie Valve 1CC9473A & B Schematic Diagram, Revision H, dated August 8, 1997
- 6E-1-4030CC11, Component Cooling Pump Pressure Control and Level Switches Schematic Diagram, Revision K, dated February 18, 1999
- 6E-1-4030CC13, Containment Piping Penetration & Support Cooling Supply Valves & Flow Alarms Schematic Diagram, Revision L dated August 8, 1986
- 6E-1-4030CC14, Manual Operated Valves CC System Schematic Diagram, Revision J, dated August 8, 1997
- 6E-1-4030CC15, CC Surge Tank Primary Water Make-up Vlv 1CC182 & Demineralized Water Make-up Vlv 1CC183 Schematic Diagram, Revision A, dated December 7, 1988
- 6E-4031CC01, Component Cooling Surge Tank Level Indication & Alarm (1-LIT-0670) Control Cabinet 5 (1PA05J), Revision H, dated December 7, 1988
- 6E-4031CC02, Component Cooling Surge Tank Level Indication & Alarm (1-LIT-0676) Control Cabinet 6 (1PA06J), Revision H, dated November 23, 1988
- 6E-4031CC07, Component Cooling Pump 1A & 1B Motor Inboard and Outboard Bearing Temperature Loop Schematic Diagram, Revision A, dated November 21, 1980
- 6E-2-4030CC01, Component Cooling Pump 2A - 2CC01PA Schematic Diagram, Revision L, dated August 8, 1997
- 6E-2-4030CC02, Component Cooling Pump 2B - 2CC01PB Schematic Diagram, Revision M, dated August 8, 1997
- 6E-0-4001, Station One Line Diagram
- 6E-1-4008A Series Drawings, 480 VAC Key Diagrams
- 6E-0-3000B Drawing Series, Electrical Installation Cable Information
- 6E-1-4030-CC01, Schematic Diagram Component Cooling Pump 1A - 1CC01PA, Revision T, August 8, 1997
- 6E-1-4030-CC11, Schematic Diagram Component Cooling Pump Pressure Control & Level Switches, Revision K, February 18, 1999

Vendor Drawings

- OWM11P Dwg 9HC-B, Demineralized Water Flushing Pumps Characteristic Curve, October 12, 1972
- Goulds Dwg 100-595, Primary Water Pump Characteristic Curve, December 20, 1977
- FlowServe Dwg W0025590, 3/4" 600 LB Globe Valve Socket Ends, Carbon Steel, Revision 0, June 20, 2000

Control and Instrumentation Diagrams (C&IDs)

- M-2066 Sheet 1, CCW C&ID, Revision S
- M-2066 Sheet 2, CCW C&ID - RHX CC, RCP Thermal Barrier Flow, Revision R
- M-2066 Sheet 3, CCW C&ID - Surge Tank Level, CCW HX Disch Temp, Revision L
- M-2066 Sheet 4, CCW C&ID - Primary Wall Penetration Cooling Flow, Revision F

- M-2066 Sheet 5, CCW C&ID - Seal Water HX Cooling Water Return Fl, Revision E
- M-2093, CCW C&ID - Pen Cooling, Revision G
- M-2139 Sheet 1, CCW C&ID - Pen Cooling, Revision N
- M-2139 Sheet 2, CCW C&ID - Pen Cooling, Revision F
- M-2139 Sheet 3, CCW C&ID - Pen Cooling, Revision E

Piping and Instrumentation Drawings (P&IDs)

- M-66A, Sheet 1, Composite Diagram of Component Cooling, Revision C, dated February 16, 2000
- M-66 Sheet 1A, Diagram of Component Cooling, Revision AP, dated December 15, 1994
- M-66 Sheet 1B, Diagram of Component Cooling, Revision AG, dated May 28, 2000(??)
- M-66 Sheet 2, Diagram of Component Cooling, Revision AH, dated May 28, 2000 (??)
- M-66 Sheet 3A, Diagram of Component Cooling, Revision AP, dated June 4, 2000 (??)
- M-66 Sheet 3B, Diagram of Component Cooling, Revision AM, dated July 14, 2000 (??)
- M-66 Sheet 4A, Diagram of Component Cooling, Revision AT, dated July 14, 2000 (??)
- M-66 Sheet 4B, Diagram of Component Cooling, Revision AY, dated August 4, 2000 (??)
- M-66 Sheet 4C, Diagram of Component Cooling, Revision AM, dated July 14, 00 (??)
- M-66 Sheet 4D, Diagram of Component Cooling, Revision AN, dated July 14, 00 (??)
- M-93 Sheet 1, Diagram of Penetration Cooling Unit 1, Revision H, dated December 3, 1984
- M-93 Sheet 2, Diagram of Penetration Cooling Unit 2, Revision F, dated March 20, 1987
- M-93 Sheet 4, Diagram of Component Cooling Units 1 & 2, Revision G, dated February 23, 1985
- M-139 Sheet 1, Diagram of Component Cooling, Revision AN, dated September 22, 2000
- M-139 Sheet 2, Diagram of Component Cooling Unit 2, Revision AE, dated September 22, 2000
- M-829, Instrument Locations Elevation 383'0" Auxiliary Building, Revision Z, dated July 23, 1987
- M-2034 Sheet 4, C&ID General Notes and Clarifying Symbols, Revision C, dated February 5, 1988
- M-2066 Sheet 1, P&ID/C&I Diagram Component Cooling System Unit 1, Revision S, dated February 5, 1988
- M-2066 Sheet 2, Component Cooling System Unit 1 P&ID/C&I Diagram, Revision R, dated April 14, 1989
- M-2066 Sheet 3, Component Cooling System Units 1 & 2 P&ID/C&I Diagram, Revision L, dated April 14, 1989
- M-2066 Sheet 4, Component Cooling System Unit 1 P&ID/C&I Diagram, Revision G, dated June 9, 1998 (??)
- M-2066 Sheet 5, Component Cooling System Unit 1 P&ID/C&I Diagram, Revision E, dated July 24, 1987
- M-2093, Penetration Cooling System Units 1 & 2 P&ID/C&I Diagram, Revision G, dated May 15, 1997
- M-2139 Sheet 1, Component Cooling System Unit 2 P&ID/C&I Diagram, Revision N, dated February 5, 1988

- M-2139 Sheet 2, Component Cooling System Unit 2 P&ID/C&I Diagram, Revision F, dated March 28, 1987
- M-2139 Sheet 3, Component Cooling System Unit 2 P&ID/C&I Diagram, Revision E, dated September 11, 1985
- M-2139 Sheet 4, Component Cooling System Unit 2 P&ID/C&I Diagram, Revision D, dated August 28, 1985

Licensee Event Reports

Meeting Minutes

Memoranda

Modifications

- M6-1-86-0186, New Limitorque Gear Sets for Valves 1CC685 and 1 CC9438, 11/23/87
- DCP 9700622, Rewire Close Control Circuit for MOV 1CC685,
- DCP 9002096, Thread and Cap Valve Packing Leak-off Nipple on Excess Letdown HX Inlet Isolation Valve 1CC9437B to Eliminate Potential Uncontrolled Leak Path, Revision 0, January 14, 1991
- DCP 9102968, Thread and Cap Valve Stem Leak-off Nipple on Excess Letdown HX Inlet Isolation Valve 1CC9437A, Revision 0, August 13, 1992
- ECN 001002E, Raise Thermal Barrier Return Isolation Flow Setpoint, Revision 0, dated March 20, 1998
- DCP 9600413, Install Time Delay to Prevent Low Pressure Auto Start of CCW Pump, dated April 11, 1999
- DCP 9600415, Raise Thermal Barrier Return High Flow Isolation Setpoint, dated March 20, 1998
- DCP 9900020, Design Change to Modify 0CC9432 Orientation, February 29, 2000
- M6-1-88-028, Retag Component Cooling Water Surge Tank Level Transmitters, dated May 31, 1989
- M6-2-87-102, Automatic Makeup to the Component Cooling Water Surge Tank, dated October 6, 1989
- M6-2-88-028, Reroute Cables for Component Cooling Water Surge Tank Level Transmitters, dated May 31, 1989
- M6-2-88-029, Reroute Cables for Component Cooling Water Surge Tank Level Transmitters, dated April 12, 1988
- SCR-84-432, Component Cooling Heat Exchanger Discharge High Temperature Alarm Setpoint Change, dated December 27, 1984
- SSCR 89-015, Primary Water Automatic Makeup to Component Cooling Water Surge Tank Reset Setpoint Value Change, dated March 21, 1989
- SSCR 89-016, Demin Water Automatic Makeup to Component Cooling Water Surge Tank Reset Setpoint Value Change, dated March, 1989
- PWR 90269, Modification of Valves 1CC130A and B Stem Link Extensions to Limit CCS Flow to 1000 GPM per Valve, February 6, 1987

Procedures

- BIP 2400-038 1CC-0649, Reactor Coolant Pump 1A Thermal Barrier Flow Indicating Switch (CC) Calibration Test Report Package, dated December 1, 1986
- BIP 2400-038 1CC-072, Component Cooling Surge Tank Low Level Switch (CC) Calibration Test Report Package, dated October 5, 1993
- BIP 2400-038 1CC-073, Component Cooling Surge Tank Low Level Switch (CC) Calibration Test Report Package, dated January 19, 1994
- 1BOA RCP-2, Loss of Seal Cooling Unit 1, Revision 53, dated January 21, 1994
- BOP CC-E1, Component Cooling System Electrical Lineup, Revision 5, dated October 26, 1988
- BOP CC-M1, Component Cooling System Valve Lineup, Revision 22, dated November 19, 2000
- BOP CC-M2A, Train "A" Component Cooling System Valve Lineup (Train "A" Safety Loop and Seal Water HX), Revision 3, dated November 19, 2000
- BOP CC-M2B, Train "B" Component Cooling System Valve Lineup (Train "B" Safety Loop and Seal Water HX), Revision 4, dated November 19, 2000
- BOP CC-M2C, Train "C" Component Cooling System Valve Lineup, Revision 3, dated November 19, 2000
- BOP CC-T3, Unit 2 Component Cooling Throttle Valve Position List, Revision 2, dated November 19, 2000
- 0BVSR 5.5.8.CC.1-1, ASME Surveillance Requirements for Component Cooling Pump 0CC01P, dated November 22, 2000
- 0BVSR 5.5.8.CC.2,Unit 0 Back Flow Test for Component Cooling Discharge Ceck Valve 0CC9464, dated August 25, 2000
- 1BOSR 0.5-2.CC.3-3. 1CC9437A and 1CC9437B Position Indication Test, dated March 24, 2000
- 1BOSR 6.1.1-12, Unit 1 Primary Containment Type C Local Leakage Rate Tests and ISI Tests of Component Cooling System, dated August 14, 2000
- 1BOSR 6.3.5-18, Unit 1 Component Cooling Containment Isolation Valve Stroke Time and Position Indication Test, dated March 22, 2000
- 1BOSR 7.7.1-1, Unit One Component Cooling Water System Valve Lineup to Safety Related Equipment Monthly Surveillance, dated March 3, 2000
- 2BOSR 6.3.5-3, Unit 2 Stroke Testing of Component Cooling Isolation Valves, dated March 22, 2000
- 2BOSR 7.7.1-1, Unit Two Component Cooling Water System Valve Lineup to Safety Related Equipment Monthly Surveillance, dated March 3, 2000
- 1BHS AP-3, Molded Case Circuit Breaker Inspection and Testing, Rev. 0, July 27, 1989
- BAR 1-6-D1, RH PUMP 1A CC Flow Low Alarm Response Procedure, Revision 1, October 6, 1999
- 1BEP ES-1.3, Transfer to Cold Leg Recirculation, Revision 1, October 6, 1998
- BOP CC-14, Post LOCA Alignment of the CC System, Revision 5, December 13, 2000
- BOP CC-T2, Component Cooling Throttle Valve Position List, Revision 6, November 19, 2000
- BOP CC-T3, Component Cooling Throttle Valve Position List, Revision 2, November 19, 2000
- 1BOSR 7.7.1-1, Component Cooling Water System Valve Lineup to Safety Related Equipment Monthly Surveillance, Revision 3, March 3, 2000
- 1BOA PRI-6, Component Cooling Malfunction Unit 1, Revision 57, August 30, 2000

- 1BOA PRI-5, Control Room Inaccessibility, Revision 57B, September 12, 2000
- 2BOA PRI-5, Control Room Inaccessibility, Revision 57C, May 26, 1999
- 2BOA ELEC-5, Local Emergency Control of Safe Shutdown Equipment, Unit 2, Revision 53B, May 16, 1997
- Control Room Annunciator Responses, Annunciator Window Box 1-2
- CC-AA-302, Control of the Cable Management Database, Revision 0
- CC-AA-309, Control of Design Analyses, Revision 0
- ECTP-19, Operational Analysis Department Electrical Construction Test Procedure for Modifications at Nuclear Stations - #19 - Control Circuits, Revision 2, dated November 30, 1989
- MA-AA-EM-4-00405, Molded Case Circuit Breaker Testing, Revision 1,
- MA-AP-IM-2-02518, Component Cooling Surge Tank Level 1 Loop (CC) Calibration, Revision 0, dated January 4, 2001
- NES-G-14, Calculations, Revision 0, April 14, 2000
- 1/2BHSR 8.b-1, Motor Operated Valve Thermal Overload Protection Surveillance, Revision 1, December 6, 1998
- N-C-0001, Conduit Sizing, Revision 5
- S&L Thermal Overload Sizing Procedure, February 24, 1986
- ComEd Welding Procedure Specification (QW-482) 1-1-B, Revision 8, November 10, 1997
- ComEd Water Backed Welding Guideline, Revision 1, August 25, 1998
- ComEd ASME/B31.1, General Welding Requirements, Revision 19, February 14, 2000
- ComEd Nuclear Stations Visual Weld Inspection Criteria V1-3, Revision 2, February 14, 2000

Safety Evaluations

- 6G-98-0070 “DCPs 9600413 and 9600414 - Addition of Time Delay to the CC Pump Low Pressure Auto Start Circuit Dated February 26, 1998
- M6-1-90-678, Thread & Cap Leak-Off Nipple On Valve 1CC9437B, Revision 0, December 19, 1990
- M6-1-91-645, Thread & Cap Leak-Off Nipple On Valve 1CC9437A, Revision 0, August 13, 1992
- 6G-99-0067, Temporary Leak Repair from line 1CC04AB-12" to Valve 1CC158, Revision 0, April 2, 1999
- 6E-00-0118, Replace Safety Valve 1CC158, Revision 0, June 12, 2000
- Operability Assessment 99-025, Relief Valve 0CC9432 Orientation, Revision 1, January 10, 2000
- Operability Assessment 97-71, Component Cooling Water Valves 1/2CC685 and 1/2CC9438, October 24, 1997

Specifications

- DC-ME-02-BB, “Process Instrument Piping and Installation Design Criteria,” Revision 6, dated May 16, 1984

Standards, Guidance, and Codes

- American Society of Mechanical Engineers, Section III, 1974 Edition
- American Society of Mechanical Engineers, Section III, 1979 Edition
- NEMA Standards Publication AB 4-1996, Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications
- IEEE Std 279-1971, Criteria for Protection Systems for Nuclear Power Generating Stations, 1971
- IEEE Std 317-1972, IEEE Standard for Electric Penetration Assemblies in Containment Structures for Nuclear Power Generating Stations, 1972
- IEEE Std 336-1971, Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations
- IEEE Std 384-1977, Criteria for Independence of Class 1E Equipment and Circuits, 1977
- IEEE Std 485-1983, IEEE Recommended Practice for Sizing Large Lead Storage Batteries for Generating Stations and Substations, September 30, 1983
- IEEE Transactions on Industry Applications, Vol. IA-21, No. 4, The Analysis of Current Transformer Transient Response on Current Relay Performance, May/June 1985
- IEEE Paper T 74 382-8, Methods for Estimating Transient Performance of Practical Current Transformers for Relaying, May 10, 1974
- Regulatory Guide 1.63, Electric Penetration Assemblies in Containment Structures for Water Cooled Nuclear Power Plants, 1973
- Regulatory Guide 1.75, Physical Independence of Electric Systems, Revision 1, January 1975
- Regulatory Guide 1.106, Thermal Overload Protection for Electric Motors on Motor-Operated Valves, Revision 1, March 1977
- Safety Guide 30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment, August 11, 1972
- NUREG-0876, Safety Evaluation Report Related To The Operation of Byron Station, Unit 1 and 2, February 1982
- NUREG-0876, Supplement Number 3, Safety Evaluation Report Related to the Operation of Byron Station, Unit 1 and 2, November 1983
- NUREG-0876, Supplement Number 5, Safety Evaluation Report Related to the Operation of Byron Station, Unit 1 and 2, October 1984

System Description

- PWR Initial License Training/Systems Chapter 19, Component Cooling Water System, Revision 0, dated January 20, 1999

Technical Specifications

- 3.6.3, Containment Isolation Valves, Ammendment 106
- 3.7.7, Component Cooling Water (CC) System, Ammendment 106

Work Requests

- 930012689, Repair Cracked Weld Upstream of Valve 1CC158 - Leaking, Revision 0, March 2, 1993
- 990033992-01, Repair Cracked Weld Upstream of Valve 1CC158 - Leaking, Revision 0, April 7, 1999
- 990033992-02, 3/4-inch vent Line Branches From Main Header 1CC04AB-12, Has Cracked Weld at Saddle - Temporary Furmanite Repair for Defective Weld, Revision 0, April 4, 1999
- 990251362-01, Add Weld to 1CC158 For 2:1 Profile, Revision 0, January 20, 2001
- 970041869, 1A LTDWN HX outlet Hdr Rlf Vlv - Remove, Test and Reinstall the Relief Valve during B1R08, dated November 6, 1997
- 970117046, MOV U-1 RC PPS Therm Barr CC Rtrn Isol Vlv (EOP Vlv) Change Close Logic for 1CC685 to Closed Limit Swithc vs Torque Sw, dated February 24, 2000
- 970074698, Rebuild Actuator, Regulators/Replace Elastomers, dated August 18, 1998
- 970088071, Replace Existing RCP 1B Bearing CCW Flow D/P Transmitter per DCP 9700435, dated August 17, 1998
- 980001685, Replace Instrument with Model 289A per DCP 9600415, dated July 6, 1998
- 980017498, Replace Motor Cut Off Switch, dated May 19, 1998
- 980072953, 1B CC PP Oil Leak Inboard Seal of the Outboard Bearing, dated April 24, 1999
- 980078748, Perform Check Valve Inspection, dated August 13, 1998
- 980058810, Relief Valve Test - IDNS - PM Id. 131554, dated September 18, 1998
- 990009095, Replace Vent Drain Off Lines, dated November 1, 1999
- 990010744, Support Mod Testing for DCP 9600414
- 990029795, Valve Not Responsive/Responded Slow to Demand from MCB, dated March 23, 1999
- 990031977, AOV 1B LTDWN HX outlet TCV does not Provided Desired Flow, dated April 8, 1999
- 990032758, Leakage from Threaded Connection to the Heat Exchanger, dated January 11, 2000
- 990033247, Replace Failed Snubber, dated April 2, 1999
- 990033591, Remove/Replace CC Lines (Lines 1CC87AB-1/2 & 1CC87EB- 1/2), dated April 1, 1999
- 990033992, Cracked Weld Upstream of Valve - Leaking, dated April 4, 1999
- 990035121, AOV 1A LTDWN HX outlet TCV Positioner Damaged, Repair/Replace if Possible, dated April 6, 1999
- 990106319, Leak from CC Outlet Flange on the 2B RH Heat Exchanger, dated October 25, 1999
- 990110541, U-0 CC PP Motor AB2 A Phase Overcurrent Target Trip, dated October 31, 1999
- 990113084, RH Hx CC Rtrn Hdr Rlf Vlv Reverse Flow Direction of Relief Valve 0CC9432, dated June 26, 2000
- 990115233, RCP 2D Lower Brg DP Flow Indicator D/P Gauge is Broken in Cnmt, dated November 11, 1999
- 990132264, U-1 CC Surge Tk 1CC01T Vent Vlv - SOL Vlv Replacement, dated October 22, 1999
- 990139860, RCP 2C Thermal Barrier Flw Alarms coming in Intermittently - Repair, dated January 31, 2000

- 990141821, U-2 CC Hx 2CC01A Outlet Tube Side Vent Valve Leak-by Excessive, Multiple Stroking Didn't Clear Seat, dated February 18, 2000
- 990144479, U-2 CC Hx 2CC01A Inlet Tube Side Vent Vlv Repair to Stop Leakage and Allow TMOD Removal, dated May 22, 2000
- 990147358, RH Hx CC Rtrn Hdr Relief Vlv Seat Leakage Check and Set Pressure Check, dated June 19, 2000
- 990151837, A-RCP/WM & PW Makeup Available Snubbers (Removal and Reinstallation) dated October 1, 2000
- 990206458, Residual Heat Exchanger Verical Scale Flow Indicator for CC Flow to 1B RH HX Seems to be Failed Low, dated September 6, 2000
- 990213691, U-1 CC Vlv 1CC9438 Byp Chk Vlv LLRT for the Penetration Increased by 2X, dated October 2, 2000
- 990215300, Support Pipe 1CC01B-16In Hanger is not Supporting Load and Lock Nuts Loose, October 4, 2000
- 990214191, Resid HX 1A CCW Out DP Flow Transmitter High Flow Alarm in at 5700 GPM, Setpoint 6100 GPM, dated September 28, 2000
- 99031992, MOV U-1 CC PP Dsch Hdr 1A Xtie Isol Vlv (EOP Vlv) Excessive Leakage of Grease from the Valve's Manual Operator, dated October 11, 1999

Updated Final Safety Analysis Report Sections

- Section 3.11
- Section 6.3
- Chapter 7
- Chapter 8
- Section 9.2.2, Component Cooling System, Revision 7
- Section 9.2.2, Component Cooling System, Revision 8
- Change Number 1-136, CCW Interunit Sharing Post LOCA, November 10, 1989
- Figure 9.2-3, Byron Updated Final Safety Analysis Report, Component Cooling System, March 1979
- Change Number 9-003, Clarify Component Cooling Water System Design Basis Leakage Assumption, December 12, 2000

Miscellaneous

- AC Motor Performance Curves and Nameplate Data (CC Pumps)
- Nameplate Data for Valves 1CC685 and 2CC685
- Bulletin EHB-88, The Okonite Company; Engineering Data for Copper and Aluminum Conductor Electrical Cables, Section1
- Westinghouse Document No. I.L.41-100H, Type CO (HI-LO) Overcurrent Relay, 12/84
- Westinghouse Vendor Manual 26-160 A WE A, AB DE-ION Circuit Breakers
- CSCV-1815, Cable Separation Criteria Violation, Rev. 11-26-80, 5/29/86
- DGDR #BY-343, Design Guide Deviation Request, Revision 1, 4/21/88
- DGDR #BY-406, Design Guide Deviation Request, Revision 1, 7/17/89
- NRC Inspection Report 050-454/00-09(DRP); 050-455/00-09(DRP), July 25, 2000
- NRC Inspection Report 050-454/00-12(DRP); 050-455/00-12(DRP), September 13, 2000

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