

September 14, 2007

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

SUBJECT: BYRON STATION, UNITS 1 AND 2 NRC PROBLEM IDENTIFICATION
AND RESOLUTION INSPECTION REPORT 05000454/2007006 AND
05000455/2007006

Dear Mr. Crane:

On August 3, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed a team inspection of problem identification and resolution at your Byron Station, Units 1 and 2. The enclosed inspection report documents the inspection findings which were discussed on August 3, 2007, with Ms. Snow and other 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.

There were no findings of significance identified during this inspection. On the basis of the sample selected for review, the inspection team concluded that Byron was generally effective in the identification, evaluation, and resolution of problems.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document

C. Crane

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Sincerely,

/RA Mark A. Ring for/

Richard A. Skokowski, Chief
Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report No. 05000454/2007006 and 05000455/2007006
w/Attachment: Supplemental Information

cc w/encl: Site Vice President - Byron Station
Plant Manager - Byron Station
Regulatory Assurance Manager - Byron Station
Chief Operating Officer
Senior Vice President - Nuclear Services
Vice President - Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
Manager Licensing - Braidwood and Byron
Senior Counsel, Nuclear
Document Control Desk - Licensing
Assistant Attorney General
Illinois Emergency Management Agency
State Liaison Officer, State of Illinois
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station

C. Crane

-2-

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B. Quigley, Byron Station

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Letter to Christopher M. Crane from Richard A. Skokowski dated September 14, 2007

SUBJECT: BYRON STATION, UNITS 1 AND 2
NRC PROBLEM IDENTIFICATION AND RESOLUTION
INSPECTION REPORT 05000454/2007006; 05000455/2007006

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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: 05000454/2007006 and 05000455/2007006

Licensee: Exelon Generation Company, LLC

Facility: Byron Station, Units 1 and 2

Location: Byron, IL 61010

Dates: July 16 through August 3, 2007

Inspectors: B. Bartlett, Senior Resident Inspector
D. Lords, Reactor Engineer
D. Jones, Reactor Engineer
C. Thompson, Illinois Emergency Management Agency

Approved by: R. Skokowski, Chief
Branch 3
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000454/2007006; 05000455/2007006; 07/16/2007-08/03/2007; Byron Station, Units 1 and 2; Identification and Resolution of Problems.

The inspection was conducted by a Senior Resident Inspector, two regional specialists, and an Illinois Emergency Management Agency inspector. 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 may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated July 2006.

Identification and Resolution of Problems

Overall, the inspection team determined that the Corrective Action Program (CAP) was effective in the identification, evaluation, and resolution of problems. The inspection team determined that the licensee typically identified problems and placed them in the CAP. The inspection team identified that operating experience was utilized and considered. The inspection team noted that the licensee was effective in conducting root cause and apparent cause evaluations and effectively resolved most problems categorized as more significant. Based on interviews, observations of plant activities, reviews of the CAP and the Employees Concerns Program, the inspection team determined that site personnel were willing to raise safety issues.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

None.

REPORT DETAILS

4OA2 Problem Identification and Resolution (PI&R) (71152B)

a. Assessment of the Corrective Action (CA) program

(1) Inspection Scope

The inspection team reviewed the procedures describing the licensee's Corrective Action Program (CAP). The licensee identified problems for evaluation and resolution by initiating issue reports (IRs) that were entered into the condition reporting system. The IRs were subsequently screened for operability, categorized by significance, and assigned for further evaluation and resolution.

The inspection team evaluated the methods for assigning and tracking issues to ensure that issues were screened for operability and reportability, prioritized for evaluation and resolution in a timely manner commensurate with their safety significance, and tracked to identify adverse trends and repetitive issues. In addition, the inspection team interviewed plant staff and management to determine the staff's understanding of, and involvement with the CAP.

The inspection team reviewed IRs to assess whether the licensee adequately evaluated and prioritized identified problems. The issues reviewed encompassed the full range of evaluations, including root cause analyses, apparent cause evaluations, and common cause analyses. Samples of IRs that were assigned lower levels of significance were also reviewed by the inspection team to ensure they were appropriately classified. The review included the appropriateness of the assigned significance, the scope and depth of the causal analysis, and the timeliness of resolution. For significant conditions adverse to quality, the inspection team reviewed the licensee's corrective actions to preclude recurrence. The inspection team observed selected daily Station Ownership Committee (SOC) IR screening meetings, in which station personnel reviewed new IRs for prioritization and assignment. The inspection team also reviewed equipment operability determinations, reportability assessments, and extent-of-condition reviews for selected items.

The inspection team reviewed the corrective actions associated with selected IRs to determine whether the actions addressed the identified causes of the problems. The inspection team reviewed IRs for repetitive problems to determine whether previous corrective actions were effective. The inspection team also reviewed station timeliness in implementing corrective actions and their effectiveness in precluding recurrence for significant conditions adverse to quality. The inspection team reviewed corrective actions associated with selected non-cited violations (NCVs) and findings to determine whether the station properly evaluated and resolved these issues.

This inspection constitutes one biennial sample of problem identification and resolution as defined by Inspection Procedure 71152.

(2) Assessment

No findings of significance were identified.

.1 Identification of Issues

The team concluded, in general, that the station identified issues and entered them into the CAP at the appropriate level. The team's review of operating experience reports identified that the licensee was appropriately including the issues into the CAP. The licensee also used the CAP to document instances where previous corrective actions were ineffective or were inappropriately closed. The inspection team noted that relatively few deficiencies were identified by external organizations (including the NRC) that had not been previously identified by licensee personnel.

The team selected three high risk systems, which included the non-essential service water, condensate system, and the 120 volt direct current electrical distribution system to review in detail. The team's review was to determine whether the licensee was properly monitoring and evaluating the performance of these systems through effective implementation of station monitoring programs. The team interviewed the system engineer of the applicable system, non-license operators, and performed partial system walk-downs of the systems. A five year review of the 480 volt Molded Case Circuit Breaker (MCCB) and fire protection issues was also undertaken to assess the licensee's efforts in monitoring for system degradation due to aging aspects.

.2 Prioritization and Evaluation of Issues

The team concluded that the licensee had properly prioritized issues based on their safety significance, and that issues were generally well evaluated. The team did not identify any issue reports that were not properly prioritized. In addition, the team observed several SOC and management review board committee (MRC) meetings, and concluded that both committees generally ensured the proper prioritization and appropriate investigation assignments for plant issues. Examples of SOC actions taken were to assign work requests, evaluations, and/or corrective action to specific departmental groups. The team observed the MRC function in an oversight role of the SOC. For example, the MRC changed the SOC recommended action of some issues based on committee dialogue and additional station awareness of the issue. The MRC performed grading of investigative CAP products to provide feedback on product quality to the sponsoring manager. The team concluded that issues were properly prioritized and generally well evaluated.

However, the team questioned the licensee regarding two IRs that had been through either the SOC or the SOC and MRC and warranted additional evaluation of prompt operability. In both cases observed, additional data gathering and assessments by the team determined that no actual operability concern existed. These IRs represented near misses in that there was information in the IRs that should have called into question the operability of plant equipment but the review committees failed to recognize.

Observations

Fire Protection

There were a large number of issues being identified by licensee and NRC personnel in the area of fire protection. These issues dealt with hardware issues, surveillance issues, documentation, and corrective action. Many of these issues were NRC identified. Examples included: missing beam fire protection (three examples), failure to test remote shutdown panel switches, problems with the pre-fire plan and the fire protection report, fire dampers not installed, and CO₂ operability with open doors. In addition, a large number of issues have been identified by licensee personnel, many of these issues have been legacy or long standing issues. The team observed significant effort to address the individual issues and observed significant effort addressing four groups of hardware issues by the Plant Health Committee; but there appeared to be little effort to perform an overall assessment of the fire protection related issues.

.3 Effectiveness of Corrective Action

The inspection team concluded that the licensee was generally effective in the resolution of problems and implementation of corrective actions. The problems identified using a root or apparent cause methodologies were resolved in accordance with program and NRC requirements. The inspection team concluded that corrective actions were generally completed in an appropriate time frame.

Observations

480 Volt Molded Case Circuit Breakers (MCCBs)

The inspection team performed a review of the high failure rate of Westinghouse 480 V MCCBs. The number of documented failures was: outage B2R12 - 44 of 120 tested (37 percent), outage B1R14 - 63 of 165 tested (38 percent), and outage B2R13 - 18 of 94 tested (19 percent). The team noted that based on failure laboratory analysis completed by a licensee contractor, all identified failures were attributed to breaker bar twisting. The lab also concluded that fixed magnetic breakers have not shown problems with tripping high out-of-tolerance (OOT). While there was much evidence to support breaker bar twisting as the cause of these failures, the inspection team also noted there was evidence of age-related degradation, such as dried and separated grease, that appeared to be dismissed by the licensee.

Also during the inspection team's review of the MCCB failures, as documented in the licensee's corrective action program, the team noted that the licensee's practice was not to consider all problems as failures. For example, the licensee did not consider individual phases with as-found OOT or breakers that did not reset following testing as failures. The inspection team found at least one example in the licensee's corrective action program (IR 446538) of MCCBs that did not reset following testing, and three cases with individual phases with as-found OOT. The inspection team ascertained that the three cases of OOT phase settings were analyzed by the licensee's contractor, which determined that the failures were due to hardened grease.

The inspection team compared the licensee's testing, and preventive maintenance to Westinghouse Bulletins 04-13 (Replacement Solutions for Obsolete Classic Molded Case Circuit Breakers, UL Testing Issues, Breaker Design Life and Trip Band Adjustment) and 06-2 (Aging Issues and Subsequent Operating Issues for Breakers That are at Their 20 Year Design/Qualified Lives; UL Certification/Testing Issues Update) as well as Information Notice 93-64 (PERIODIC TESTING AND PREVENTATIVE MAINTENANCE OF MOLDED CASE CIRCUIT BREAKERS). Both the Westinghouse Bulletins and the Information Notice described the aspects of age-related degradation, including dried and separated grease. Additionally, the OE recommended periodic cycling of the MCCBs, and/or breaker replacement after 20 years in mild environment applications. Most of the 480 Volt MCCBs have been in service for greater than twenty years, and some have shown indications of age-related degradation. Although the licensee had evaluated the OE, they determined not to implement the recommendations. Based on the questions from the inspection team, the licensee is reevaluating the MCCB preventive maintenance activities and frequency. The licensee's decision not to implement the OE recommendations is not a violation of NRC requirements. Furthermore, the team assessed the MCCB failures as captured in the licensee's corrective action program, and there were no incidences severe enough to be considered a significant condition adverse to quality, therefore no violations of NRC requirements occurred.

b. **Assessment of the Use of Operating Experience (OE)**

(1) Inspection Scope

The team reviewed the licensee's implementation of the station operating experience program. Specifically, the team reviewed implementation of operating experience program procedures, attended CA program meetings to observe the use of OE information, completed evaluations of OE issues and events, and selected 2006 and 2007 monthly assessments of the OE composite performance indicators. The purpose of the team's review was to determine whether the licensee was effectively integrating OE experience in the performance of daily activities. Specifically that OE was used in the evaluation of issues, departmental assessments, Nuclear Oversight (NOS) audits, and the use of OE was effective in preventing repeats of previous industry events. The team also assessed if corrective actions, as a result of OE experience, were identified and effectively and timely implemented.

(2) Assessment

The team did not identify any findings of significance in this area. In general, with the exception of the MCCB issue described above, OE information was being well utilized at the station. The team observed that Exelon fleet internal OE and industry OE were discussed by licensee staff to support review activities and CAP investigations. During licensee staff interviews, the team identified that the use of OE was being considered during daily activities.

c. **Assessment of Self-Assessments and Audits**

(1) Inspection Scope

The team reviewed selected focused area self-assessments (FASA), check-in self-assessments, and Nuclear Oversight audits of the corrective action program, technical human performance, engineering design control and programs, maintenance, operations and system performance monitoring. The team evaluated whether these audits and self-assessments were being effectively managed, were adequately covering the subject areas, and were properly capturing identified issues in the CAP. In addition, the team also interviewed licensee staff regarding the implementation of the audit and self-assessment programs.

(2) Assessment

No findings of significance were identified.

The team concluded that the licensee's departmental assessments and nuclear oversight audits were effective at identifying plant deficiencies and enhancement opportunities at an appropriate threshold level. Assessments and audits were thorough and probing. The auditing and assessing teams were comprised of personnel with appropriate knowledge, skills, and abilities, which resulted in the identification of plant deficiencies, plant improvement recommendations, and plant strengths. Assessments and audits properly characterized issues, and identified issues were subsequently placed into the CAP. In addition, the team concluded that 2007 PI&R FASA was a very good effort that resulted in a quality product.

d. **Assessment of Safety Conscious Work Environment**

(1) Inspection Scope

The team interviewed selected members of the licensee's staff to determine if there were any impediments to the establishment of a safety conscious work environment. In addition, the team discussed the implementation of the Employee Concerns Program (ECP) with the ECP Coordinators, and reviewed their 2006/2007 activities to identify any emergent issues or potential trends. Licensee programs to publicize the CAP and ECP programs were also reviewed.

(2) Assessment

No findings of significance were identified.

The staff was aware of, and generally familiar with the CAP and other station processes, including the ECP, through which concerns could be raised. Staff interviews identified that issues could be freely communicated to supervision, and that several of the individuals interviewed had previously initiated IRs. In addition, a review of the types of issues in the ECP indicated that site personnel were appropriately using the corrective action and employee concerns programs to identify issues. The team interviewed the ECP Coordinators and concluded that they were focused on ensuring all site individuals

were aware of the program, comprehensive in their review of individual concerns, and used the corrective action and employee concerns programs to appropriately resolve issues.

4OA6 Meetings

.1 Exit Meeting

The team presented the inspection results to Ms. M. Snow and other members of licensee management at the conclusion of the inspection on August 3, 2007. The team asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

No findings of significance were identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Snow, Plant Manager
R. Chalifoux, Corrective Action Program Coordinator
S. Fruin, Acting Operations Director
C. Gayheart, Work Control Manager
A. Giancatarino, Engineering Director
W. Grundmann, Regulatory Assurance Manager
S. Kerr, Chemistry Manager
W. Kouba, Nuclear Oversight Manager
J. Langon, Regulatory Assurance
S. Swanson, Maintenance Director

Nuclear Regulatory Commission

R. Skokowski, Chief, Reactor Projects Branch 3

ITEMS OPENED AND CLOSED

Opened

None

Opened and Closed

None

Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

ISSUE REPORTS GENERATED DUE TO THE INSPECTION

IR 656295; NRC Senior Resident Identified Debris in FME Zone 1 Around SFP; August 1, 2007
IR 656855; Oil Usage Log Used Inconsistently; August 3, 2007
IR 657030; Aggregate Review of Fire Protection Issues is Warranted; August 3, 2007
IR 657070; Further Evaluation Needed for Molded Case Circuit Breakers; August 3, 2007
IR 657546; Potential FME Concerns Spent Fuel Pool Area; August 6, 2007

ISSUE REPORTS REVIEWED DURING INSPECTION

IR 374050; Security Fence Down; September 16, 2005
IR 349478; Operations First Quarter CAP Trending - Outage Related Events; July 1, 2005
IR 370681; NOS ID'd Root Cause Corrective Actions Deficiencies; September 6, 2005
IR 373962; Potential Adverse Trend in Unplanned Non-Shutdown LCO Entries;
September 15, 2005
IR 375009; Fuel Oil Storage Tanks Cleaning Process; September 19, 2005
IR 379616; Safety and Radiation Practices; September 9, 2005
IR 387581; Unit 2 Reactor Trip On Loss Of CD/CB PP 2A; October 19, 2005
IR 383201; No Fall Protection; October 7, 2005
IR 383326; Below Standard Crane Observation; October 7, 2005
IR 383706; Production over Safety; October 9, 2005
IR 384780; Liquid Nitrogen Cylinders Not Secured, October 11, 2005
IR 430826; 2A D/G Exhaust Screens Dirty; December 16, 2005
IR 445208; U1 Pressurizer Sample Point Isolation Failure; January 23, 2006
IR 446973; Un-insulated Battery Terminal Leads; January 28, 2006
IR 458698; Safety Issue for the 2B SI Pump Room; February 25, 2006
IR 463574; 2006 NRC Mod And 50.59 Inspection-Ops Rounds Not Updated; March 8, 2006
IR 465905; Ladder Safety Posts; March 13, 2006
IR 465952; Auxiliary Building Safety Concern, March 13, 2006
IR 469894; Abandonment Of RSH FP Header And Hose Stations; March 23, 2006
IR 472530; Check in Assessment of Clearance and Tagging; December 29, 2006
IR 477497; RWST Level Operability Impacted by Transmitter Calibration; April 11, 2006
IR 478456; Fire Dampers Not Installed in Fire Rated Barriers; April 13, 2006
IR 497784; UCSR Confined Space; June 7, 2006
IR 498672; 2CS019B Valve Stroke Not Performed due to Safety; June 10, 2006
IR 507048; D/G Door Posting not Obeyed; July 7, 2006
IR 509274; 10CFR Part 21 For ESF Batteries; July 14, 2006
IR 524692; Cover for Light Fixture in Battery Room 211 broke; August 28, 2006
IR 525011; Focused Area Self Assessment of Reactivity Management; December 20, 2006
IR 527105; Potential Ignition Sources in the ESF Battery Rooms; September 4, 2006
IR 529577; Refueling Machine Hazards; September 11, 2006
IR 531453; Cable Tray Energized; September 15, 2006
IR 534573; Good Catch; September 22, 2006
IR 535213; ED Reset; September 19, 2006
IR 536001; ED Reset; September 25, 2006
IR 549324; Found Battery Room Door Unlocked; October 26, 2006
IR 551404; Engineering - Potential Trend - Human Error Prevention; October 31, 2006

IR 556440; CDBI-Problems With Calculation BYR2000-062/BRW-00-0111-E;
November 10, 2006
IR 560234; Focused Area Self Assessment of B2R13 Outage Readiness; January 31, 2007
IR 562375; CDBI Calculation BYR04-016 Assumptions; November 22, 2006
IR 569941; NOS ID'd Corrective Action Assignments Not Properly Closed; December 15, 2006
IR 571955; Headache from D/G Exhaust; December 21, 2006
IR 577680; Pressure Gage on Halon Bottle Reading Low; January 11, 2007
IR 578710; Backlog of IR Closure Reviews and Trending; January 12, 2007
IR 580189; Halon Bottle Pressure Low, Out of Specification; January 18, 2007
IR 580456; Fear and Distraction - Submitted Anonymously; January 18, 2007
IR 594142; Actions from NSRB Meeting Minutes from January 9 - 10, 2007; January 9, 2007
IR 594524; Acid Leak; February 22, 2007
IR 601107; NOS ID'd Corrective Action Program Processes Not Rigorous; March 8, 2007
IR 613708; Containment Isolation Valve 2-CC-9518 Failed Leak Rate Test; April 5, 2007
IR 615351; Minor Injury to Mechanic; April 10, 2007
IR 617200; Fixed Ladder with Structural Defects; April 14, 2007
IR 624042; Compressed Gas Cylinders Not Stored Properly; May 1, 2007
IR 644020; PI&R Focus Area Self-Assessment Deficiency; June 25, 2007
IR 649815; New PORV Controller Lessons Learned; July 12, 2007
IR 649853; Pump is Turning the Wrong Way after Controller Modification; July 12, 2007
IR 653305; 1D Steam Generator PORV Work Window Exceeded Estimate by more than plus
or minus 10 percent; July 17, 2007
IR 653669; NOS ID'd 2Q07 Yellow (Chronic) Rating for RP Department; July 25, 2007
IR 654619; CAP Evaluations Overdue; July 27, 2007
IR 655144; Maintenance Rule Action Conflicts with Regulatory Guide 1.160; July 30, 2007
IR 655683; Inappropriate Closure of Incorrect ACITS; July 30, 2007

Fire Protection Issues

IR 148945; Small Hole in AEER Wall Leads to LCOAR Entry; March 13, 2003
IR 148903; Fire Seals in Unit 1 Aux Electrical Equipment Room; March 13, 2003
IR 210467; Degraded Fire Hose; March 24, 2004
IR 227598; NOS ID'd Adverse Trend Fire Protection Program Deficiencies; June 10, 2004
IR 228104; Fire Truck Missing Two 5 inch Quick Lock Adapters as Found by Surveillance;
June 13, 2004
IR 276473; Conduit in 1A D/G Room; November 17, 2004
IR 277138; Firehose Issues While Staging for Clearance Order; November 28, 2004
IR 320569; Components on Fire Truck Inventory Missing; April 3, 2005
IR 325192; Degraded Hoses on Foam Machines; April 15, 2005
IR 336345; New Fire Seals not Being Added to Fire Seal Inspections; May 18, 2005
IR 429839; FP Hose Station Found Without Nozzle; December 2, 2005
IR 432581; 0BOSR FP-Q1 Fails to Meet Acceptance Criteria; December 10, 2005
IR 465154; Fire Truck Missing Gated Wye; March 12, 2006
IR 477513; Extent of Condition on Fire Piping; April 2006
IR 504408; Fire Truck Hose Issues; June 28, 2006
IR 504946; Fire Hose Testing Procedures Need Updating; June 29, 2006
IR 506972; Work Order Identified Two Hoses Requiring Replacement; July 3, 2006
IR 509629; Valve 0FP475 Could Not Be Flushed; July 13, 2006
IR 509738; Unplanned LCOAR Entry on Hose Station 250; July 15, 2006
IR 516253; Potential Document Issues with Fire Hoses; August 2, 2006

IR 520780; Lessons Learned Fire Protection Foam System Maintenance; August 16, 2006
IR 542454; Fire Protection Report Discrepancies; October 10, 2006
IR 593370; Fire Proofing Removed without PBI Initiated; February 19, 2007
IR 594075; Perform Common Cause Analysis on Piping Leaks in the Fire Protection System;
February 21, 2007
IR 598079; Fire Proofing Issue Identified; March 1, 2007
IR 601728; Fireproof Thermafiber Insulation Impairment; March 9, 2007
IR 601978; Steel Beam Missing Fire Protection Board; March 10, 2007
IR 602010; Fire Truck Needs More Hose; March 10, 2007
IR 602838; Steel Beam Missing Fire Protection Board Unit 2 Area 7; March 12, 2007
IR 622255; Fire Barrier Walkdown; April 26, 2007
IR 625999; Oil Storage Tank Room Fire Damper Dropped; May 6, 2007
IR 630782; NRC Steel Beam Fireproofing Questions; May 17, 2007
IR 638778; Fire Truck Inventory Comes Up Short; June 9, 2007
IR 650463; Fire Pre-Plan Discrepancies Identified; July 16, 2007
IR 652278; NRC Inspectors Identified that IR 577680 Lacked a Basis for Operability;
July 20, 2007
IR 654830; Full Scope of Fire Seal Repair Not Identified; July 28, 2007
IR 655346; No CERA Blanket Found in Fire Seal; July 16, 2007
IR 655788; BOL Needs Clarification; July 31, 2007
0BOSR FP-Q5, Revision 7, "Fire Response Truck and Backup Mobile Card Inspection"
CC-AA-201; Plant Barrier Control Program, Revision 6
Standing Order 07-035; Guidance for Fire Protection CO2 or Halon Zone Operability,
July 30, 2007
0BOSR FP-Q5, "Fire Response Truck and Backup Mobile Cart Inspection," Revision 7
NOSA-BYR-07-01; CAP Audit Byron Station; March 9, 2007
Quick Human Performance Investigation Report 649952, "FP Hose Flow Verification not
Performed per Surveillance," July 13, 2007

REFERENCES

IR 593317, Action Item 3; Results of the Safety Culture Survey Performed August 2006;
April 3, 2007
BAP 1100-3A3; "Pre-Evaluated Plant Barrier Matrix," Revision 21
594777-04; Self-Assessment for Preparation for NRC Problem Identification and Resolution
PI&R) Inspection; June 2007
Meeting Summary Byron Nuclear Safety Review Board July 12 and 13, 2005
Meeting Summary Byron Nuclear Safety Review Board October 20 and 21, 2005
Meeting Summary Byron Nuclear Safety Review Board January 23 and 24, 2006
Meeting Summary Byron Nuclear Safety Review Board May 15 and 16, 2006
Meeting Summary Byron Nuclear Safety Review Board August 23 and 24, 2006
Meeting Summary Byron Nuclear Safety Review Board January 9 and 10, 2007
Meeting Summary Byron Nuclear Safety Review Board May 7 and 8, 2007
RP-BY-300-1005; RP Guidance for Water Transfers and System Flushing; Revision 0
RP-BY-1081-2; RP Performance Program; Revision 4
BAP-1100-3; Plant Impairment Program; Revision 18
Work Order 994874; Halon Bottle Pressure Low, Out of Specification
NOS CAP Audit NOS-BYR-07-01; March 30, 2007; IR 571154
NOS Audit LCO Work Window Performance; December 2, 2005, IR 278945
NOS audit LCO Work Window CAP Quality; August 2, 2006, IR 442751

ACE and Exelon Corporate White Paper; December 12, 2006, IR 523038;
ACE for Uncontrolled High Radiation Area, NCV 2006-04-03; September 9, 2006, IR 531013
ACE for Tritium Release to the Environment, NCV 2006-04-02; February 14, 2006, IR 478372
LS-AA-115; Operating Experience; Revision 10
LS-AA-120; Issue Identification and Screening Process, Revision 7
LS-AA-125; Corrective Action Program (CAP) Procedure, Revision 11
LS-AA-125-1001; Root Cause Analysis Manual; Revision 6
LS-AA-125-1002; Common Cause Analysis Manual; Revision 5
LS-AA-125-1003; Apparent Cause Evaluation Manual; Revision 7
LS-AA-125-1004; Effectiveness Review Manual; Revision 2
LS-AA-125-1005; Coding and Analysis Manual, Revision 5
LS-AA-126; Self-Assessment Program; Revision 5
LS-AA-126-1001; Focused Area Self-Assessments; Revision 4
LS-AA-126-1005; Check-In Self Assessments, Revision 3
LS-AA-126-1006; Benchmarking Program, Revision 1
NO-AA-200-002; Nuclear Oversight Regulatory Audit Procedure; Revision 10
NO-AA-200-002-1001; Exelon Nuclear Audit Handbook; Revision 11
OP-AA-102-103, Operator Work-Around Program; Revision 1
EI-AA-1; Employee Issues; Revision 1
EI-AA-101; Employee Concerns Program; Revision 6
EI-AA-100-1003; Employee Issues Advisory Committee Notification; Revision 0
EI-AA-101-1002; Employee Concerns Program Trending Tool; Revision 3
LS-AA-1006; "NRC Cross-Cutting Analysis and Trending," Revision 1
RP-AA-203-1002; Response to ED Reset Alarms; Revision 0
WC-AA-101-1004; On-Line Maintenance for LCO Components; Revision 4
Executive Review of Exelon's Nuclear's Learning Programs, Monthly for July 2005 through
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Executive Review of Exelon's Nuclear's Learning Programs for June 2007

FME Reactor Vessel And Spent Fuel Pool

IR 123845; Loose Paint Chip Fell Into Reactor Vessel-Retrieval Required; September 20, 2002
IR 177721; Paint Chips Discovered In FME Zone 1; September 26, 2003
IR 217076; Paint Chips In The Spent Fuel Pool; April 27, 2004
IR 518222; Foreign Material Found In Spent Fuel Pool; August 9, 2006
IR 519131; Loose Paint Contributing To SFP FME Issue; August 11, 2006
IR 611673; B2R13-Paint Chips Noted On Staged Material In Crosstown; April 2, 2007
IR 613143; FME Challenge, Paint Chips Need Scraped and Vacuumed; April 4, 2007

Procedure Placekeeping

IR 601900; NOS ID Placekeeping not being performed in work package; March 10, 2007
IR 603735; NOS ID Placekeeping not being performed in work package; March 14, 2007
IR 612677; NOS ID Operations' Placekeeping deficiency; April 4, 2007
IR 617878; NOS ID Poor Placekeeping in ECCS Flow Balance Test; April 16, 2007
IR 618015; NOS ID Operations' Placekeeping deficiency; April 20, 2007
IR 620343; NOS ID Cross Cutting Placekeeping Deficiencies in B2R13; April 22, 2007
IR 624419; NOS ID Simulator Training Session without Set Placekeeping; May 1, 2007
HU-AA-104-101; Procedure Use and Adherence NOS Site Status Report July 17, 2007
Operations Policy 700-14

480 Volt Molded Case Circuit Breakers

IR 124871; Molded Case Circuit Breakers Test Out of Tolerance; September 27, 2002
IR 211383; Molded Case Circuit Breakers Test Out of Tolerance; March 28, 2004
IR 211384; Molded Case Circuit Breakers Test Out of Tolerance; March 28, 2004
IR 211386; Molded Case Circuit Breakers Test Out of Tolerance; March 28, 2004
IR 211390; Molded Case Circuit Breakers Test Out of Tolerance; March 28, 2004
IR 311885; Molded Case Circuit Breakers Test Out of Tolerance; March 12, 2005
IR 380420; Molded Case Circuit Breakers Test Out of Tolerance; September 30, 2005
IR 380467; Molded Case Circuit Breakers Test Out of Tolerance; September 30, 2005
IR 381472; MCCB Testing Repair Plan Incomplete; October 3, 2005
IR 441548; Feed Breakers for Pressurizer Heaters Failed Surveillance; January 12, 2006
IR 449192; Heat Degradation; February 2, 2006
IR 477913; AP6 Maintenance Rule Unacceptable Trend; April 12, 2006
IR 483813; MCCB Testing Failures; April 27, 2006
IR 531766; Breaker Tripped Out of Tolerance High; September 15, 2006
IR 531898; Out of Tolerance HFB Breaker 132X1 1AP23E; September 16, 2006
IR 531909; Out of Tolerance HFB Breaker 132X1 1AP23E D4; September 16, 2006
IR 532016; Molded Case Breaker 1AP92E-A4 Failed to Trip; September 16, 2006
IR 532974; Aggregate Impact of Breaker Testing Failures; September 19, 2006
IR 534855; B1R14 LL Molded Case Circuit Breaker (MCCB) Testing; September 22, 2006
IR 560339; Breaker Failure Due to Lack of Lubrication; November 20, 2006
IR 594463; Breaker Did Not Open When Trip Plate Depressed; February 22, 2007
IR 633252; Breaker 1LL62JA-C Will Not Shut "Off"; May 24, 2007
MA-AA-723-325 Westinghouse/Cutler-Hammer MCCB Trip Testing; Revision 6
MA-AA-716-210-1001 Motor Control Centers/MCCBs Maintenance Test Template; Revision 8
NEMA AB 4-2000; Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers used in Commercial and Industrial Applications; 1996
NRC Information Notice 93-64; Periodic Testing and Preventive Maintenance of Molded Case Circuit Breakers; August 12, 1993
NRC Information Notice 92-51 Supplement 1; Misapplication and Inadequate Testing of Molded Case Circuit Breakers; April 11, 1994
Westinghouse Technical Bulletin TB-04-13; Molded Case Circuit Breakers
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Power Labs Failure Analysis Project Number BYR-13720
Power Labs Failure Analysis Project Number BYR-20989
Power Labs Failure Analysis Project Number BYR-20990
Power Labs Failure Analysis Project Number BYR-20991
Power Labs Special Testing Project Number BYR-21599
Power Labs Failure Analysis Project Number BYR-95259
Power Labs Tech Services Work Request Project BYR-47998, WR #2241
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Byron Quarterly Ship System Report, Auxiliary Power LV1 120/208V
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Silting

IR 362882; Mud In WS Lines And Various Coolers On 2AS02PA/B; August 11, 2005
IR 381523; 2B AF Diesel Cubicle Cooler Drain Pan Mud Caked; October 3, 2005
IR 397453; No Flow to Upper Motor Cooler, Line Is Plugged; November 10, 2005
IR 462587; 1C CW Pump Bowl Full Of Mud; March 6, 2006
IR 469078; CW Blowdown Air Release Valves Found Plugged With Mud; March 21, 2006
IR 469915; Line Plugged With Silt/Debris; March 23, 2006
IR 471384; SX Blowdown Valve Apparently Plugged With Silt; March 27, 2006
IR 607620; Piping Appears To Be Plugged; March 22, 2007
IR 633689; VI Chiller: Pressure Indicator Piping Plugged; May 25, 2007
IR 647995; OC WS Pump (Non-Running) Motor Cooling Flow Plugged; July 7, 2007

Miscellaneous Operations Issues

IR 532290; Possible Operator Workaround Concerning CW Blowdown; September 17, 2006
IR 535346; 1HD046B Work Prior to Additional CO Isolation; September 24, 2006
IR 542407; Extent of Condition Review From IR 538328; October 11, 2006
IR 610812; Extent of Condition in CAP Investigations Needs Improvement; March 30, 2007
IR 610826; NOS ID CAP Corrective Action Effectiveness Attribute DNME; March 30, 2007
IR 622229; NOS ID Procedure Implementation Not Completed at Byron; April 26, 2007
IR 629150; Valve Identified Out of Position; May 7, 2007
IR 629361; MRC Directed Review of Steam Leaks Following B2R13; May 14, 2007
IR 630883; NOS ID Trend in OPS Narrative Logkeeping; May 17, 2007
Standing Order 07-039; Oil Addition Log Documentation; August 7, 2007

Miscellaneous

Byron SOC Agenda for Tuesday, July 17, 2007
Byron MRC Agenda for Wednesday, July 18, 2007
Byron SOC Agenda for Thursday, July 19, 2007
OE18517; Siemens Personal ED Resets; June 4, 2004

LIST OF ACRONYMS USED

ADAMS	Agency-Wide Document Access and Management System
CA	Corrective Action
CAP	Corrective Action Program
CFR	Code of Federal Regulation
ECP	Employee Concern Program
FASA	Focused Area Self Assessment
DRP	Division of Reactor Projects
EOC	Extent of Condition
IMC	Inspection Manual Chapter
IR	Issue Report
MRC	Management Review Committee
MCCB	Molded Case Circuit Breaker
NCV	Non-Cited Violation
NOS	Nuclear Oversight
NRC	United States Nuclear Regulatory Commission
OE	Operating Experience
OOT	Out of Tolerance
PI&R	Problem Identification and Resolution
RCA	Root Cause Analysis
SDP	Significance Determination Process
SOC	Station Ownership Committee