

August 7, 2005

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 05000454/2005008(DRP); 05000455/2005008(DRP)

Dear Mr. Crane:

On July 1, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed a team inspection at the Byron Station, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on July 1, 2005, with Mr. S. Kuczynski and other members of your staff.

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

On the basis of the samples selected for review, there were no findings of significance identified during this inspection. The team concluded that problems were properly identified, evaluated and resolved within the problem identification and resolution (PI&R) programs. However, the team identified two concerns that cut across all the functional areas of the PI&R programs. Specifically, the team identified that plant staff were sometimes too focused on the specific process being implemented rather than on the overall PI&R programs, and that operating experience, especially internal Exelon experience, was ineffectively utilized. The team also identified several examples of minor problems, including conditions adverse to quality that were not entered into the corrective actions program and narrowly focused condition report evaluations.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure and your response to this letter will be available electronically for public

C. Crane

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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/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

George Wilson, Acting Chief  
Branch 3  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000454/2005008(DRP); 05000455/2005008(DRP)  
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 - Mid-West Operations Support  
Vice President - Licensing and Regulatory Affairs  
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-454; 50-455

License Nos: NPF-37; NPF-66

Report Nos: 05000454/2005008(DRP); 05000455/2005008(DRP)

Licensee: Exelon Generation Company, LLC

Facility: Byron Station, Units 1 and 2

Location: 4450 N. German Church Road  
Byron, IL 61010

Dates: June 13 through July 1, 2005

Inspectors: N. Shah, Acting Senior Resident Inspector  
R. Ng, Resident Inspector  
B. Jorgensen, Consultant  
C. Thompson, Illinois Emergency Management Agency

Approved by: George Wilson, Acting Chief  
Branch 3  
Division of Reactor Projects

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000454/2005008(DRP), 05000455/2005008(DRP); 06/13/2005 - 07/01/2005; Byron Station, Units 1 and 2. Identification and Resolution of Problems.

The inspection was conducted by an acting senior resident inspector, a resident inspector, a State of Illinois resident engineer, and a consultant. There were no findings identified during this inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

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

Overall, the team concluded that problems were being adequately identified, evaluated, and corrected. Issues captured in the corrective action program were appropriately screened and evaluated for root or apparent causes and workers generally expressed positive views about the program. However, the team identified two concerns that cut across all the functional areas (problem identification, evaluation and resolution) of the corrective actions program. Specifically, the team identified that plant staff were sometimes too focused on the specific process being implemented rather than on the overall program. There were several instances where issues were identified during cause or operability evaluations, but were not fed back into the corrective action program, because it was not a specific requirement of the evaluation process. The team also noted that industry experience, especially internal Exelon experience, was underutilized in identifying or evaluating issues. The Nuclear Oversight organization was considered intrusive and challenged corrective action program performance based on the numerous examples of assessment findings reviewed during the inspection. The team also observed that the station had reasonably addressed previously identified NRC issues, but noted that Nuclear Oversight had identified some concerns with the corrective actions for those issues identified during the 2003 NRC Problem Identification and Resolution inspection.

## REPORT DETAILS

### **OTHER ACTIVITIES (OA)**

#### 4OA2 Problem Identification and Resolution (71152)

##### .1 Effectiveness of Problem Identification

###### a. Inspection Scope

The team assessed the licensee's processes for identifying and correcting problems. The team reviewed selected plant procedures and program description handbooks, interviewed plant and contractor personnel, and attended various station meetings to understand the station's processes for initiating the corrective action program (CAP) and related activities.

The team reviewed selected operator logs generated during the inspection period and during the previous Unit 1 refueling outage (February 27-March 25, 2005) to determine whether identified issues were being captured in the CAP.

The team reviewed previous licensee and inspector-identified issues, operating experience reports, Nuclear Oversight (NOS) and trend assessments to determine if problems were being identified at the appropriate threshold and entered into the CAP. Although the review covered the last 5 years, the team focused on items generated since the 2003 NRC Problem Identification and Resolution Inspection (PI&R) (Inspection Report 05000454/2003009(DRP); 05000455/2003009(DRP)) for more in-depth review.

The team performed an in-depth review of the emergency diesel generator (DG) and auxiliary feedwater systems to evaluate the licensee's processes for equipment monitoring, maintenance rule implementation, and to identify if issues were being appropriately addressed. Both systems were considered of high risk significance. The team interviewed system managers, reviewed cause and operability evaluations, system health reports and system monitoring program results, and performed partial system walkdowns. In particular, the team searched for items or issues which looked like potential trends and assessed whether the licensee had appropriately identified and captured these trends within the CAP. In addition to the two systems described above, the team also reviewed issue reports (IRs) generated since January 1, 2004, for the switchyard, pressurizer and reactor coolant systems for potential trends.

The team reviewed selected audits and self-assessments of the corrective actions, operations, maintenance, engineering and plant support (radiation protection, chemistry, emergency preparedness and security) programs. The team evaluated whether these audits were being effectively managed, adequately covered the subject areas and whether identified issues were properly captured in the CAP. In addition to the document review, the team also interviewed licensee staff regarding the implementation of the audit and self-assessment programs.

The specific documents reviewed are listed in the Attachment to this report.

b. Observations and Findings

The licensee operated a broad, low-threshold CAP governed by corporate-level policies and procedures. A shared computerized database was used for creating individual reports and for subsequent management of the processes of issue evaluation and response. This included determining the issue's significance, addressing such matters as regulatory compliance and reporting, and assigning any actions deemed necessary or appropriate. Through interviews, the team determined that individuals were encouraged to initiate an IR for any item they personally felt needed attention or action. Very large numbers of issues were entered into the computer database for the CAP; approximately 10,000 items were entered since January 1, 2004. The team noted that the majority of these IRs were of very low individual significance.

Although the team concluded that problems were being adequately identified, there were some vulnerabilities noted involving potential information lost to the CAP and some examples where new issues arose during the cause evaluation that were not captured in the CAP. These matters are discussed in greater detail below.

b.1 Observations on Thresholds for Entering Known Problems into the Corrective Action Program

As noted, all individuals were encouraged to initiate an IR for any issue they felt needed attention. The general nature of the CAP administrative procedures necessarily left some room for interpretation regarding the threshold for documenting an issue; however, most individuals stated that there was generally no issue too insignificant to put into the CAP. During interviews, most station staff stated that reporting an issue was less likely to bring trouble than knowing about an issue and not reporting it. Still, the team observed a considerable variation in the level of direct participation in the program. For example, in several departments, working-level individuals preferred to report problems to first line supervision, rather than initiate an IR themselves. The team noted that this practice was consistent with the CAP procedures and did not appear to deprive the CAP of issues which needed to be addressed.

However, the team did identify some potential vulnerabilities where issues could be lost to the CAP process:

- Many departments maintained an informal "issues list." These lists resulted from a senior management initiative and were supposed to monitor items outside the scope of the CAP, such as work efficiency or quality of life issues. Most issues tracked on these lists did not warrant an IR and for those few that did, an IR had been initiated, all though this was not always reflected on the lists. Still, the team was concerned with the informality of these lists, including the lack of cross-referencing to the CAP.
- During the interviews, many workers stated that minor issues associated with human performance or with work package or procedural quality, were generally fixed in the field rather than through the CAP. Although contrary to management expectations, workers felt that this was preferable. The practice reflected a preference for continuation of work and, with respect to human performance, a

general unwillingness to report on a fellow worker. While the few examples provided by the workers were truly minor in nature, this was considered a vulnerability because of the potential for issues to not be captured in the CAP and because the threshold for what constituted a minor issue was being established at the worker level.

The team noted that Braidwood IRs were distributed during the daily plan-of-the-day meetings, but that there was no expectation that these IRs be fully evaluated. In fact, with the exception of operations, the department CAP coordinators typically did not screen the Braidwood IRs for applicability to Byron station. However, the team noted that system engineers were required to review these IRs for system applicability and that this expectation was being met. Given the similarity between the two stations, it was probable that many issues identified at Braidwood would be applicable to Byron. The failure to use the Braidwood IRs was considered one example of a general tendency to underutilize industry experience, which the team considered a weakness in the CAP.

Issues identified in the operator logs were appropriately documented in IRs, and potential operability concerns were generally routed to operation's shift management for review. However, there were some examples where this had not occurred:

- IR 244846 documented an Apparent Cause Evaluation (ACE) following a trip of the 0A train of control room ventilation on August 16, 2004. The cause was identified as a short-to-ground of the fan motor windings, which was stated to be a known industry issue with Reliance motors. The team noted that at the time of discovery, there was no documented evaluation regarding the operability of the 0B train of control room ventilation. Additionally, during a subsequent evaluation, engineering identified that this same issue potentially affected other safety-related motors currently in use, yet there was no indication that this information was ever communicated to operations for review.
- IR 310377 identified that on March 24, 2004, the 1A main steam isolation valve room ventilation damper solenoid was found stuck in the energized position, when the room fan was shutdown, resulting in the outside air damper failing open rather than closed. Although the solenoid is not safety-related, the effects of operability on safety-related components in the room were not evaluated for the environmental conditions resulting from this configuration.

In these examples, station engineering had reasonably concluded that the operability of the affected components was not challenged, but had failed to recognize that only licensed operations staff could make this determination. This was one example of a general theme where workers failed to consider the overall CAP, because they were too focused on a particular process. While no violations were identified, this was considered a weakness with the CAP.



## b.2 Observations and Findings on Identifying Conditions Adverse to Quality

The team identified several examples where new issues were identified during cause or operability evaluations which were not captured in the CAP. These issues were minor in nature and did not constitute violations of NRC requirements. Some examples included:

- The ACE following the trip of the 0A train of control room ventilation (IR 244846), identified the cause as a short-to-ground of the fan motor windings. Although the evaluation stated that this was a known industry issue with the manufacturer of these motors, there was no discussion or subsequent action to determine why this known issue had not been previously addressed by the licensee.
- A Root Cause Report (RCR) (IR 208018) addressing several occurrences of procedural adherence issues at the station, identified that similar problems were also present with Nuclear Station Procedures and with Training and Reference Materials. However, there was no discussion or subsequent action to address this issue. Additionally, the report identified that the licensee had not evaluated operating experience from LaSalle station documenting similar procedural adherence issues, but again, it did not appear that this missed opportunity was ever evaluated.
- An Operability Evaluation (IR 318009) for a through wall leak identified in a fire header on March 28, 2005, stated that this was the second such leak in the same section of piping since 2002. However, there was no indication that the reason for the recurrent leakage was ever evaluated. During the inspection, the team noted that station operations had raised a similar question during a Plan-of-the-Day meeting, but again, no formal action was taken to review the issue.
- An Operability Evaluation (IR 334573) for observed leakage from the 1B centrifugal charging pump inboard bearing, identified the potential cause as improper clearance in the labyrinth seal due to prior work occurring in the thirteenth Unit 1 refueling outage. However, this conclusion was not fed back into the CAP process for consideration by those staff performing the root cause evaluation. The operability evaluation also identified that the Updated Final Safety Analysis Report implied that the mission time of the charging pump was 1 year, but that the actual mission time was 24 hours, per a corporate letter dated July 26, 1996. However, no action was taken to determine why the Updated Final Safety Analysis Report had not been updated to reflect the actual mission time.

These examples provided further evidence that workers were often too focused on specific processes to consider the overall CAP. For example, the individual performing the above operability evaluations, stated that he had not written IRs to address the new issues, because it was not a formal requirement of the evaluation process. As stated previously, this was a pervasive issue that was considered a weakness by the team.

### b.3 Selected System Reviews

In general, observed equipment deficiencies had been entered into the corrective action program and selected operating experience reports were properly evaluated and dispositioned by the system engineer. The team concluded that the operability evaluations reviewed provided adequate evaluation and justification of operability issues. Based on the sample of issue reports reviewed, the team also concluded that issues affecting equipment availability were appropriately evaluated for maintenance rule applicability.

The team observed that there had been numerous IRs and work tags written for oil related issues on both the emergency DG and auxiliary feedwater systems. For example, since May 2002, there were approximately 24 IRs or work requests concerning oil related issues on either the 1B or 2B diesel driven auxiliary feedwater pumps. These issues were being tracked by the licensee individually, and none of them presented an operability concern. However, the team noted that while individual oil leaks were reasonably tracked, oil consumption was not. Further review determined that this was a generic issue for all plant systems. Although operations maintained an oil addition log, it was not a formal process, was often not updated by plant operators and was not reviewed by system owners. The team noted that changes in oil leak rates were typically identified either after the leakage had increased significantly or through tribal knowledge. This was considered a potential vulnerability as it too often placed the station in a reactive rather than a proactive mode in addressing oil leakage.

The team noted that there had been a significant decline in the performance of the auxiliary feedwater system in the last 2 years. Specifically, several events occurred which compromised the system performance capabilities. In March, 2004, the system was placed in Maintenance Rule (a)(1) status due to repetitive lubricating oil low level events occurring in December 2003 and January 2004. Other events included overheating of the 2B auxiliary feedwater pump diesel engine due to a lack of jacket water in April 2004, and loss of cooling to the 1A auxiliary feedwater pump oil coolers in June 2004. During subsequent evaluations, the licensee identified that two of these events (i.e., the loss of lube oil level and the loss of cooling flow to oil coolers) were avoidable, had information concerning industry practices and experience been fully utilized in risk prevention or in issue evaluation. In particular, practices at other Exelon sites, had they been adopted at Byron, likely would have prevented these events. This was considered an example where industry experience, especially internal Exelon experience, was ineffectively utilized.

The team also observed that the licensee's initial evaluation following the 2B auxiliary feedwater pump jacket water overheating, was focused more on proving operability of the pump instead of determining the extent of potential damage to the diesel. Specific technical information (such as how low the jacket water got, how long the 2B pump diesel ran in this condition and how hot the engine eventually got) was not addressed. Additionally, the evaluation did not identify what the most vulnerable component was and how to inspect for damage. This initial evaluation assumed that the water jackets were not empty, but under-filled. In a subsequent more in-depth evaluation, using the same information that existed at the time of overheating, the licensee determined that the water jackets were more likely empty, a highly significant difference.

b.4 Nuclear Oversight

Overall, NOS was conducting well-planned, thorough audits and was identifying numerous findings and observations across the spectrum of performance, including issues of proper CAP implementation. In general, the NOS assessments were thorough and appropriately critical of the areas being evaluated. In particular, the team noted that the April 18, 2005, NOS assessment of the CAP was broader in scope and more critical than the licensee's subsequent, April 25, 2005, CAP self-assessment.

NOS worked primarily under well-defined and focused audit and surveillance procedures, which produced structured reports of results in the defined areas examined. However, these reports contained relatively few examples of NOS making broader judgements about the meaning of the issues they identified, or of their potential generic implications, their common causes, or their illustration of broad organizational weaknesses. Instead, as noted for other organizations, activities and reports reflected a focus on process details. In this regard, several of the licensee personnel interviewed by the team characterized the NOS approach as too detail oriented. The team viewed this as a potential missed opportunity for the NOS group to contribute expertise to the broadest and most in-depth understanding of the issues and discussed this concern with NOS staff.

.2 Review and Evaluation of Issues

a. Inspection Scope

The team reviewed selected Apparent Cause Evaluations, Root Cause Reports, prompt investigations, operability determinations, and Common Cause Analyses. Attributes reviewed included the technical adequacy of the cause determinations, adequacy of the extent of condition reviews, including evaluations of potential common cause or generic concerns and, as applicable, the adequacy of associated operability and reportability determinations.

The team reviewed data for a 5 year period for the emergency DG and auxiliary feedwater systems. The team evaluated whether identified issues were appropriately prioritized and evaluated when entered into the corrective action program. In particular, the team focused on whether functional failures and system unavailability time were appropriately identified and tracked in accordance with the maintenance rule. Those issues having cause evaluations were reviewed as described above.

Other attributes reviewed by the team included the quality of the licensee's trending of conditions and the corresponding corrective actions. The team searched for items or issues which looked like potential trends and assessed whether the licensee had appropriately identified and captured these trends within the corrective action program. The team also assessed licensee corrective actions stemming from previous Non-Cited Violations and Licensee Event Reports.

The team reviewed the various controlling procedures, selected records of activities, walkdowns of the selected systems, interviews with cognizant station personnel and

observation of various licensee meetings. The specific documents reviewed are listed in the Attachment to this report.

b. Observations and Findings

b.1 Evaluations

In general, the licensee's evaluations were found to be broadly-based, technically sound, and focused on safety. However, the team identified some problems with the effectiveness of trend evaluations and additional examples where workers failed to consider the overall CAP when implementing specific processes or failed to effectively utilize industry experience. No violations of NRC requirements were identified.

b.2 General Corrective Action Program Implementation Observations

The licensee's program had built-in mechanisms for identifying or recognizing conditions adverse to quality. As noted, the program authorized and encouraged all staff to initiate IRs as appropriate. Once initiated, IRs were first reviewed by the department CAP coordinators for completeness and for assignment of the applicable trend coding. The IRs were then reviewed by the Station Ownership Committee to assign priority and actions. Issues potentially bearing on plant equipment operating conditions or otherwise having the potential to affect plant operations were promptly routed to the operating shift for review by the Shift Manager. Selected issues were then reviewed by the station Management Review Committee, comprising senior managers from each department, to verify that the overall CAP objectives were being met.

The team attended several Station Ownership Committee and Management Review Committee meetings and observed that issues were being appropriately challenged and that reportability, repetitiveness and trending were discussed where appropriate. Additionally, there were no instances of significant disagreement with the priority classification or disposition of the corrective action documents at the meetings attended by the team. Through interviews, the team noted that the department CAP coordinators were generally stable without major turnover. This stability allowed for a more consistent application of trend codes and trend analysis within departments. Generally, issues were clearly identified in the IRs and supporting information was well documented.

Each department CAP coordinator prepared trend reports on an approximately quarterly basis. These reports normally addressed the preceding 6 months, so they overlapped by 2 or 3 months. Therefore, data in various standardized categories (significant issues, human error precursor and defense, process issues, and others) was thus reported for the same months in two successive reports.

The team identified numerous examples where the same categories contained inconsistent conclusions in different trending periods. For example, the engineering department Quarterly Trend Analysis reports for March to August 2004 and for July to December 2004, had different values for the number of significant level 3 issues for July and August 2004, respectively. Similar issues were also identified in maintenance department trend reports generated in August 2004 and January 2005, in that both

listed different totals for the number of significant issues identified in July and August 2004, respectively. This inconsistency in the database occurred throughout all the department quarterly trend reports reviewed. The team could not identify the cause of the disparities, but noted, in some cases, that they apparently resulted from errors in setting up the trend report search in the licensee's CAP database. However, given the pervasiveness of the inconsistencies, the team questioned the validity of the trending process and the associated conclusions. IR 347320 was generated by the licensee to document this issue.

The team identified some examples where it was unclear if the cause of the potential trends had been evaluated. For example:

- An engineering evaluation (IR 311441), for an adverse trend with seizing of velan globe valves on safety-related cubicle coolers, identified the cause as binding of the valve stem with the bonnet bushing. However, there was no discussion on how this conclusion was reached, what was causing the binding, or whether other Exelon sites had experienced similar problems. Subsequently, the team learned that the system engineer had inspected some of the bound valves and believed the cause was corrosion of the valve internals due to the raw water environment. The engineer also stated that other Exelon sites had not had similar problems, possibly due to more frequent cycling of the valves than at Byron. However, as stated these observations were not discussed in the trend evaluation.
- An engineering evaluation (IR 297670) for an adverse trend with 1A centrifugal pump cubicle cooler flow, stated that the cubicle flow was restored following maintenance on the cubicle cooler flow valves and flushing of the cooler service water flow instrumentation line. However, the reason for the trend was not evaluated, so it was unclear whether these repairs corrected the symptom or the cause.

The team determined that the failure to properly document or fully evaluate the cause of these trends was a weakness, as it limited the efficacy of the process.

The team observed that industry experience was appropriately captured in the CAP, but noted that the review for applicability was often limited. For example, the licensee's evaluation of a Clinton Nuclear Event Report (IR 206997) describing problems with the electro hydraulic control system during plant startup, concluded that no action was warranted as Byron used a different system. However, the focus of this evaluation was limited to the applicability of the corrective actions described in the Event Report and not on the root or contributing causes of the event. These causes were potentially applicable, as they were independent of the type of electro hydraulic control system being used. The team noted that the licensee's process for evaluating operating experience only required that the corrective actions and not the causes be reviewed. This was another example where the focus on a specific process limited the overall efficacy of the CAP.

Other examples of problems with the use of industry experience included:

- An apparent cause evaluation (IR 274453) for an inadvertent drain down of the Unit 1 spent fuel pool during resin transfer operations, did not address a similar event occurring at another Exelon site approximately 1 year earlier. This event had similar root and contributing causes, and the corrective actions may have prevented the subsequent Byron event.
- An operability evaluation (IR 334573), for oil leakage from the 1B centrifugal charging pump inboard bearing, referenced another evaluation (IR 111324) for a similar issue involving the Braidwood 2B centrifugal charging pump. The Braidwood evaluation stated that the oil leakage was aggravated by a vacuum effect caused by the pump coupling guard, which was fixed by slotting the guard. However, this vacuum effect was not considered in the Byron operability evaluation or otherwise captured in the CAP.
- The team noted that IR 306538, a Byron event involving a failure to declare a Notice of Unusual Event, was in part due to a failure to thoroughly evaluate internal Exelon experience, specifically an earlier issue with dose equivalent iodine at Braidwood, such that the potential for the expected transient to reach reportability levels was not recognized.
- The team noted the occurrence of several preventable security events involving ammunition control, vehicle accidents and a mis-operation of an Active Vehicle Barrier, which had in common, a failure by the licensee to adequately consider industry experience, including internal Exelon events.

As stated earlier (Section 1.b.3), the team also noted that several of the auxiliary feedwater pump events had a common cause in that information concerning industry practices and experience was not fully utilized in risk prevention or in issue evaluation. These examples provided further evidence of a general tendency to underutilize industry experience, in identifying or evaluating issues at Bryon.

### 3. Effectiveness of Corrective Action

#### a. Inspection Scope

The team reviewed selected condition reports and associated corrective actions to evaluate the effectiveness of corrective actions and to determine whether corrective actions were being identified and implemented in a timely manner, commensurate with the safety significance of the issues. The team also verified the appropriate implementation of a sample of corrective actions and reviewed a sample of corrective action effectiveness reviews completed by the licensee. The selection of samples for review were based on their importance in reducing operational risks and recurring problems.

The team focused on information recorded since the 2003 PI&R inspection, but did review selected items going back over a 5-year period. The team selected samples based on their importance in reducing operational risks and recurring problems. A listing of the specific documents reviewed is in the Attachment to this report.

b. Observations and Findings

The team concluded that, in general, corrective actions were adequately implemented and tracked to completion, corrective actions appeared effective in addressing the parent issue, and corrective action timeliness appeared to be commensurate with the safety significance of the issues. However, there were some examples where past corrective actions were not fully addressed in issue evaluations. For example:

- A root cause evaluation (IR 208018) for procedural adherence issues, identified that the licensee had performed evaluations for prior, similar issues at both Dresden (IR 165123) and Byron (IR 166546). However, there was no discussion on whether the corrective actions from these earlier evaluations should have prevented recurrence.
- The apparent cause evaluation for the inadvertent drain down of the Unit 1 spent fuel pool, identified several, prior fleet events including one at Byron (IR 215585). However, the evaluation did not discuss whether the corrective actions from these events should have prevented this issue.

As stated, the team did not consider this a pervasive problem, but noted that further station attention was needed to determine the efficacy of previous corrective actions.

In general, the station had effectively addressed previously identified Non-Cited Violations, but the team noted that NOS had raised concerns about how the station addressed issues identified in the 2003 PI&R inspection. In particular, NOS was concerned with the timeliness of corrective actions for the centrifugal charging pump shaft failures and whether the corrective actions for the reactor containment fan cooler switch were in variance from the issues raised in the NRC report. The team did not identify any issues with the licensee's handling of those Licensee Event Reports reviewed during this inspection.

Many workers expressed frustration that, in general, low level issues may remain uncorrected for extended periods of time, in part due to increasing workload and diminishing resources to address identified issues. However, no one identified an example of staff inability or unwillingness to raise and document safety concerns due to inadequate time or resources. This observation was also documented in the 2003 NRC inspection report. The team identified the following examples of prolonged inaction on issues assigned a low priority:

- The essential service water SX101 valves, which supplied cooling water to the auxiliary feedwater pump oil coolers, were identified as problematical, in as early as 1995 when a valve failed at another Exelon site. Although preventive maintenance (coil replacement, cleaning of internals) was instituted at another Exelon site, similar proposals at Byron (in 1998 and 2003) and a separate proposal to remove the valves from the system (in 2000), received no action. It wasn't until a valve failed at Byron in 2004, that their removal from the system was approved.

- IR 139856 described a procedural use and adherence deficiency when an electrical maintenance technician discovered that a chart recorder and jumpers for recording the local 2B emergency DG control panel were disconnected. The chart recorder had originally been installed by electrical maintenance, but had been removed by operations. The cause was inadequate guidance regarding who was responsible (maintenance or operations) for installing/removing the chart recorders. The corrective action was to revise the applicable procedures to assign overall responsibility of the chart recorders to electrical maintenance. This action was initiated in November 2003, but was not completed until July 2005. The team felt that the time to correct this relatively minor problem was excessive, given that there were several other revisions to this procedure, addressing similar minor concerns during this period.

Although none of these examples were violations, they did provide some credence to the workers' concerns. They also, in part, contributed to the feelings of frustration that resulted in some workers fixing minor problems outside of the CAP (Section 1.b.1)

#### .4 Assessment of Safety-Conscious Work Environment

##### a. Inspection Scope

The team interviewed approximately 33 members of the plant staff, across all major work groups and all levels of responsibility. The purpose of the interviews was to assess whether a safety-conscious work environment existed at the station. The interviews were conducted using the guidance provided in Appendix 1 of NRC Inspection Procedure 71152, "Suggested Questions for Use in Discussions with Licensee Individuals Concerning Problem Identification and Resolution Issues."

In addition to the interviews, the team looked for evidence that plant employees might be reluctant to raise safety concerns during document reviews and observations of activities. The team also reviewed the station procedures related to the Employee Concerns Program (ECP), and discussed the implementation of this program with the station's program coordinator.

##### b. Observations

The team did not identify any significant findings. Workers generally expressed no concerns about identifying issues, and felt comfortable discussing them with supervision without fear of reprisal. The team observed that all personnel interviewed were aware of the different avenues through which they could express concerns including the corrective action program, informing their supervisor or plant managers, contacting the ECP coordinator, or coming to the NRC; however, many workers said they preferred reporting issues directly to their immediate supervisor.

Workers were generally familiar with the ECP and expressed no concerns with utilizing it. In fact, the team noted that the number of issues being addressed in 2005 to date at Byron, was significantly higher than the sum total of all ECP issues identified at the other Exelon sites since January 2004. Neither the team nor the licensee understood the reason for the disparity, but attributed it, in part, to better advertising of the ECP



program at Byron. The team did not identify any common concerns or trends among the issues being tracked at Byron.

#### 4OA6 Meetings

##### Exit Meeting

The team presented the inspection results to Mr. S Kuczynski and other members of licensee management on July 1, 2005. The team confirmed with the licensee that proprietary information was not examined during the inspection.

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

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R. Chalifoux, CAP Coordinator  
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B. Youman, Maintenance Manager

#### Illinois Emergency Management Agency

C. Thompson, Illinois Emergency Management Agency Resident Engineer

#### Nuclear Regulatory Commission

R. Skokowski, Byron Senior Resident Inspector

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

#### Opened and Closed

None

#### Discussed

None

## LIST OF DOCUMENTS REVIEWED

### Root Cause Evaluations

Action Request (AR) 195433-20; 2B AF Pump Outboard Bearing Oil Leak Resulting in Inoperability of the Pump  
AR 232158; 1A AF High Bearing Oil Temps During [American Society of Mechanical Engineers] ASME Run; 6/28/04  
AR 232158-08; High Bearing Temperature During 1A AF Pump Run Due to Essential Service Water Valve Failing to Open  
AR 240718-04; Complete Root Cause Report 2B AF Pump Jacket Water Leak  
AR 240718-05; Review Event in IR 240718 for Past Operability/Reportability  
AR 257081-06; U2 Reactor Coolant System Boration; 11/14/2004  
AR 272558; Adverse Trend, Security Force Communications and Procedure Adherence  
AR 306538; Emergency Action Level for an Unusual Event Not Declared  
AR 317517; Security Collective EFR 185120-21 Ineffective; 3/26/05  
EC 350840; 2B AF Diesel Jacket Water Leak Operability

### Apparent Cause Evaluations

AR 117598-01; HUT Relief 0AB8634 Delays Lead to Cancellation; 8/27/02  
AR 154462-03; Maintenance Document Quality; 6/17/03  
AR 201085-14; Issues Affecting Maintenance Work Planning Performance; 10/26/04  
AR 207471; Corrective Actions Left Out of Procedure Revision; 3/10/05  
AR 208815-12; Final Clear of CO# 26681 with Master Card Not Removed; 5/28/2004  
AR 211055; Steam Generator Worker Exceeded Authorized Radiation Work Permit Daily Dose  
AR 221621-16; 0A Makeup Demineralizer Clearance Order Tag Out Error; 6/24/2004  
AR 223047; LCO Entry Not Made for Tornado Watch, 0B0L7.9, Ultimate Heat Sink  
AR 226603-03; 0B SX M/U Pump Battery Charger: Danger Card Placed on Wrong Component; 7/13/2004  
AR 232158; Remove 1SX101A Valve Assembly and Perform Equipment Inspection and Document Results  
AR 234101-02; Configuration Control Adverse Trend; 9/9/2004  
AR 240200; Maintenance Rule Program Failing to Meet Management Expectations by NOS Audit July 26-August 6, 2004; 9/21/2004  
AR 245024; Iodine Release Concerns for B1R13  
AR 248383; Radwaste Vendor Selected the Wrong Demineralizer Vessel During Resin Change Out  
AR 257653-02; Engineering Identified Adverse Trend in SX System Through Quarterly CAP Trending; 11/3/2004  
AR 261112-02; Perform a Common Cause Analysis on SX Silting Issues; 12/14/2004  
AR 261675; U2 Steam Generator Blowdown Samples Indicate High Sulfate Concentrations  
AR 266763; Excavation Spoil Removed from Protected Area Without Radiation Survey  
AR 270824; Lessons Learned from A2R11, Need Byron Review for Applicability  
AR 271977; B1R13 Failed Fuel Team Action Plan  
AR 293793; 1SI8821A Dose Estimates Exceeded During Execution  
AR 294693; Security Required Equipment Not Available for Responder  
AR 296639; Vehicle Checkpoint Security Officer Incorrectly Activated the Wedge Gate

AR 317448; U1 Startup Hold for Steam Generator Sulfate at 30% Power  
LS-AA-125-1001; Root Cause Analysis Manual; Revision 4  
LS-AA-125-1003; Apparent Cause Evaluation Manual; Revision 5

### **Licensee Event Reports**

LER 455-2000-002-00; Reactor Trip From Failed Circuit Card in Feedwater Flow Control Circuitry; 8/25/00  
LER 454-2000-002-00; Acceptance Criteria for the Control Room Ventilation System Train Monthly Surveillance Not Met Due to Human Performance Error; 06/15/00  
LER 454-2001-001-01; Reactor Power Limit Exceeded Due to Improperly Calculated Feedwater Mass Flowrate Utilized in Reactor Power Calorimetric; 5/15/01  
LER 454-2001-003-00; LCO 3.0.3 Entry Due to Leak on Safety Injection Common Line Weld; 11/26/01  
LER 454-2001-003-01; LCO 3.0.3 Entry Due to Leak on Safety Injection Common Line Weld; 1/28/02  
LER 454-2002-003-00; Two Automatic Reactor Trips Due to Reactor Coolant Overtemperature Conditions Caused by Digital Electrohydraulic Control System Circuit Card Failure Causing the Turbine Governor Valves to Close; 10/15/02  
LER 454-2003-004-00; Multiple Main Steam Safety Valves Out of Tolerance; 11/14/03

### **Operability Evaluation**

IR 150984; 1FW009B Oil Sample Color Not as Expected; 3/27/03  
IR 214396; Unplanned Limiting Condition for Operations Action Requirement for 1RY8033 Failure During SST Surveillance; 4/11/2004  
IR 310993; 2B DG [Diesel Generator] Service Air Check Valve Not Isolating (2SA191D); 3/10/2005  
IR 318009; FP Header in Area 5 Appears to Have a Through Wall Leak; 3/28/2005  
IR 334573; Oil Leak on 1B CV Pump; 5/12/2005  
IR 337617; Pressurizer Safety Valve Exceeded Its' As-Found Acceptance Criteria; 5/28/2005

### **Trending**

IR 184795; Present Formal Training to Mechanics On Techniques; 12/22/2004  
IR 191652; Declining Performance in Procedure Adherence; 12/17/2003  
IR 199237; Apparent Adverse Trend for Unplanned LCO Entries; 1/31/2004  
IR 218459; Station Configuration Control Events; 5/3/2004  
IR 234574; Instrument Test Report - Configuration Control Adequacy; 7/2/2004  
IR 254833; Additional Trend Codes Recommended for Operations Process; 9/20/04  
IR 288227; Backlog in Condition Report Trend Coding; 1/6/2005  
IR 311411; Adverse Trend With Seized Velan Globe Valves (Essential Service Water System); 3/11/2005  
LS-AA-125-1002; Common Cause Analysis Manual; Revision 3  
Quarterly Cap Trend Analysis Results for Radiation Protection/Safety; March 1 through August 31, 2004  
Quarterly Cap Trend Analysis Results for Chemistry/Radwaste/Environmental; June through November 2004

Quarterly Cap Trend Analysis Results for Chemistry/Radwaste/Environmental; October through March 2005  
Quarterly Cap Trend Analysis Results for Chemistry/Environmental/Radwaste; March 1 through August 31, 2004  
Quarterly Cap Trend Analysis Results for Security; March through August 2004  
Quarterly Cap Trend Analysis Results for Security; 4<sup>th</sup> Quarter 2004  
Quarterly Cap Trend Analysis Results for Security; October 2004 through March 2005  
Quarterly Cap Trend Analysis Results for Maintenance; March through August 2004  
Quarterly Cap Trend Analysis Results for Maintenance; July 2004 through January 2005  
Quarterly Cap Trend Analysis for Radiation Protection; First Quarter of 2005  
Quarterly Cap Trend Analysis Results for Radiation Protection/Industrial Safety; June through December 2004

### **Other Condition Reports**

AR 274583; Inservice Inspection Program Quarterly Health Report Yellow Window; 11/18/04  
AR 231762; CAP Focused Area Self-Assessment Deficiency #2 - Investigation Timeliness; 6/26/2004  
AR 255986; OE19148 Voided ECCS Suction Piping at Palo Verde; 9/23/2004  
AR 255327; Methodology for Screening of Alloy 600TT; 9/21/2004  
AR 278296; Braidwood DG Issue Needs Byron Evaluation for Extent of Condition; 12/2/2004  
AR 205829; Institute of Nuclear Power Operations SEN 246 - STP Emergency DG Failure OPEX Review; 3/3/2004  
AR 293472; Foreign Material Found Inside Motor Inboard Bearing Housing; 1/24/2005  
AR 228406; 1SI077 Found with Plug Installed in Spring Area of Relief VA; 6/14/2005  
AR 228409; 2SI077 Requires Plug Removal; 6/14/2004  
AR 310377; Damper Control Solenoid Sticking; 3/9/2005  
AR 139856; 2B DG Chart Recorder Leads were Found Disconnected; 1/16/2003  
AR 111712-12; Repair the Cause of the 2A & 2B Low Lube Oil Pressure; 12/1/2003  
AR 184795; Intolerance for Unexpected Equip Fail Threshold Inadequate; 11/5/2003  
AR 157568; 1B DG Jacket Water HX Deficiencies; 5/7/2003  
AR 278296; Braidwood DG Issue Needs Byron Eval for Extent of Condition; 12/2/2004  
AR 287094; NEW BW-04-123-P-Y Preliminary Yellow 1A DG L-O-F Relay Trip; 1/3/2005  
AR 205829; Institute of Nuclear Power Operations SEN 246 - STP EDG Failure OPEX Review  
AR 231762; CAP Focused Area Self-Assessment Deficiency #2 - Investigation Timeliness; 6/26/2004  
AR 323512; Oil Leaking into the Junction Box; 4/11/2005  
AR 280214; Unit 1 CC Heat Exchanger at Fire Main Pressure During Isolation; 12/7/2004  
AR 311904; DC Bus 114, Rear Circuit #7 Will Not Stay Closed; 3/12/2005  
AR 332862; 1B AF Pump Air Box Leakage; 5/7/2005  
AR 308078; 1A AF Pump B Phase Over Current Relay Found out-of-tolerance; 3/3/2005  
AR 312673; DC Breaker at Bus 123 Setting Found at 3.5; 3/14/2005  
AR 308027; Wiped Outboard Bearing on 1AF Motor; 3/3/2005  
AR 306938; Unplanned LCO and Risk Change During ACB 1424 Trip Checks; 3/1/2005  
AR 189355; 2B AF Pump Battery Cell Voltage Below Acceptance Criteria; 12/5/2003  
AR 310811; Appendix R Lighting Not Working; 3/9/2005  
AR 346303; Appendix R Lighting Not Working; 6/22/2005

AR 310316, 313288, 313290, 313292, 324792, and 334235; Boric Acid Leaks, March 9, 16, 16, 16, April 14, May 5, 2005 respectively  
AR 210693,210688, 214291, 240501, 240098, 278891, 286272, 318877; IST Failures, March 25, 25, April 10, July 29, 28, December 3, 29, 2004 and March 18, 2005  
IR 205267; INPO [Institute of Nuclear Power Operations] SEN 247, Failure of Safety Injection Pump Lube Oil Coolers; 3/1/2004  
IR 206997; NER CL-04-015, Yellow - Unanticipated Responses in EHC; 3/8/2004  
IR 223890; Braidwood IR 220524 Applicability to Byron Station; 5/12/2004  
IR 232345; Westinghouse Technical Bulletin TB-04-11; 6/29/2004  
IR 263946; OE 19157 - Possible Operability Concern; 8/31/2004  
IR 269806; Change Management for DEH MOD Installation for B1R13; 11/2/3004  
IR 283719; Westinghouse TB-04-17 Revision 1 Replacement SSPS Relays; 12/17/2004  
IR 289634; Failure to Implement TSD Process Per TQ-AA-210 & 10 CFR 55.59; 1/11/2005  
IR 289967; Inappropriate Closure of Issue 269806, DEH MOD; 1/12/2005  
IR 290364; OPEX Issue From Braidwood Requires Review at Byron; 11/18/2004  
IR 293926; Issue Not Addressed in Issue 269806, 289634, 289967; 1/25/2005  
IR 325049; NER KS-05-006 Yellow- BRE Hatch Support Piston Failure; 4/15/2005  
IR 327766; OE 20450 Millstone Reactor Trip - Applicable to Byron Station; 4/17/2005  
IR 342462; Potential Air Line Failure on 1HD103B; 6/9/2005

### **Self-Assessment Reports**

AR 154126-02; Clearance and Tagging; 12/17/2003  
AR 190179-01; [Nuclear Oversight Audit] NOSA-BYR-04-01 Byron NOS Maintenance Functional Audit; 3/10/04  
AR 190214-01; NOSA-BYR-04-02, Byron NOS Security Audit  
AR 190216-01; NOSA-BYR-04-04, Chemistry, Radwaste and PCP Audit  
AR 190217-01; NOSA-BYR-04-03; Byron NOS Emergency Preparedness Audit  
AR 192588-02; Technical Specifications Compliance; 8/2/2004  
AR 193160-02; Multi-Site, Cross-Functional Operational Decision Making; 10/11-22/2004  
AR 192587; Assessment of Operations Department Compliance with FME Program; 9/24/2004  
AR 190854; Security Threshold for Initiating Condition Report Weakness; 1/28/04  
AR 202394; MOV Set Up Window Determination and Analysis; 10/25/2004  
AR 206490-22; Information Notice 2004-02 AFP Potential Common Cause Failure  
AR 208392-02; INPO SER 1-04 Continued Problems with Unplanned Radiation Exposures; 5/28/04  
AR 246632-02; Clearance and Tagging Program; 9/29/2004  
AR 258976;-01; OPEX Review Report of Revised NRC Information Notice 91-85, as Applicable for Thermostatic Control Valves for AF Diesel Engine Jacket Water  
AR 273856; NOSA-BYR-05-01; Byron Corrective Action Program; 04/18/05  
AR 273946; NOSA-BYR-05-03; Security Audit Report  
AR 273949-01; NOSA-BYR-05-04; Emergency Preparedness Audit Report  
AR 293154-02; BW-05-003 Yellow - Significant Injury - Acid Burn  
AR 299845; NOS Identified Two Events Not Documented on an IR; 2/10/05  
AR 299947; NOS Identified Inadequate Vehicle Search; 2/10/05  
AR 317178-03; The Usage and Maintenance of the Personnel Qualification Database Continues to be an Issue Across the West Region; 5/17/05  
AR 321153; Review of INPO SER 2-05 Gas Intrusion in Safety Systems

AR 337629-04; Nuclear Oversight Corporate Comparative Audit Report 2005 Corrective Action Program  
Action Tracking Item (AT) 145191; Supervisory Knowledge of MARC Process; 2/27/2004  
AT 187657; NOS Corporate Procedure Implementation; 7/26-7/30, 2004  
AT 187656; Effectiveness o NOS Follow-ups; 10/28/04 AT 188558; Focused Area Self Assessment, Laboratory Safety; 10/8/04  
AT 188753; Corrective Action Program - Evaluation Quality and Issue Identification; June14-18, 2004  
AT 248205; Focused Area Self Assessment for New CAP Implementation for Exelon Nuclear Fleet; 10/12/04 to 1/4/05  
AT 274565; Byron Station Mid Cycle Self-Assessment; 11/1-12/04  
AT 279630; Problem Identification and Resolution [PI&R]; 4/25/05  
Check-In Report; Equipment Readiness and Reliability (EQRZ) - Data Initiation; 1/5/05  
Chemistry Department Issues Log Entries; January 2002 - June 2005  
CHT-A-CT-HP; Human Performance Events - Byron Maintenance; 6/16/05  
IR 291662; Self Assessment Review Board Review of SSDI FASA; 1/18/2005  
IR 318274; Issue Report Initiation Lack of Active Participation; 3/28/2005  
IR 321568; SARB Comments on Chemistry Check In On Heat Exchanger Inspections; 4/5/2005  
IR 321575; SARB Comments of RP FASA on ALARA Program; 4/5/2005  
IR 326308; Chemistry Check In Self Assessment Rated Below Expectations; 4/19/2005  
IR 329085; Human Performance fundamentals Weaknesses - Operations; 4/26/2005  
Operability Evaluation (OE) 03-001; Condensate Storage Tank Level Inadequate Using Churring Emergency Procedures; Revision 0, 1, and 2  
OE 03-004; Non-Safety Related Positioners on Safety-Related Valves; Revision 0, 1, and 2  
OE 05-003; U1/U2 AF 024 Operator Weighs More Than Analyzed  
LS-AA-120; Issue Identification and Screening Process; Revision 3  
LS-AA-125; Corrective Action Program Procedure; Revision 8  
LS-AA-125-1002; Management Observation of Activities; Revision 1  
LS-AA-126; Self-Assessment Program; Revision 4  
LS-AA-126-1001; Focused Area Self-Assessments; Revision 3  
LS-AA-126-1005; Check-In Self-Assessments; Revision 2

### **Byron Procedures and Other Administrative Documents**

EI-AA-101; Employee Concerns Program; Revision 4  
OP-AA-300-1004; PWR Boration and Dilution Requirements; Rev. 0

### **NRC-Identified Issues**

IR 124902 Unit 2 Shutdown Risk Challenged by Switchyard Activities; 9/27/2002  
IR 146165; High Vibration 2A CV Pump During ASME Surveillance; 2/25/2003  
IR 189008; Failure to Generate CR [Condition Report] for Failed Vibration Switch 1VS-VP001; 2/23/2003  
IR 230632; Combustible Loading for Fire Zone 11.5.0; 6/22/2004  
IR 234085; Control of Combustible Loading; 7/6/2004  
IR 338206; NOS Identified Deficiencies in PI&R Inspection Readiness FAS; 5/24/2005  
IR 346497; IR and Associated Operability Eval - Missed Opportunities; 6/22/2005  
IR 347320; CAP Trending Data Inconsistencies; 6/24/2005

IR 347947; Drawing Deficiency for EDG Air Intake Filter; 6/27/2005  
IR 348756; NRC Operability Question Concerning VC Fans; 6/29/2005  
IR 348831; No Apparent TLCO Condition for Missed Surveillance Requirement  
IR 349208; NRC PI&R: Availability Question of \_AF004 Valve During Test; 6/30/2005  
IR 349232; NRC PI&R; Local Panel Byron Annunciator Response Procedures for AF Need Updating; 6/30/2005  
IR 350532; Level Discrepancy Between 1A SI Accumulator Level Indicators; 7/5/2005  
CR B2000-01350; Conduit Fire Seal QC Installation Documentation; 5/9/2000

## Miscellaneous

Plant Issue Resolution; RY Pressurizer Safe End Welds; 2/12/2004  
Plant Issue Resolution; 2RC-0434 2C RCS [Reactor Coolant System] Loop Flow Transmitter; 9/20/2004  
EC 351381; Evaluation of Unit 2 RCS Flow Indication (2RC-0434) Following Abnormal Increase in Indication and Subsequent Return to Normal Indication Upon Cycling Off/On of Flow Transmitter Power Supply; Rev. 0  
EC 348298; Document Effect on Calibration of AF Pump Suction Pressure Transmitter with Inaccurate MT&E; 4/19/2004  
Instrument Maintenance Department - Shop Top 10 Concerns; 6/16/05  
Mechanical Maintenance Department Performance and Department Status; 5/30/05  
Electrical Maintenance Department Top Ten Safety Issues List; Undated  
Chemistry Department Issues Logbook; 6/18/05  
Byron Station Security 100 Day Plan, Apparent Cause Evaluation Committee Top Issues; 2005  
Operating Department Policy 700-09; Operating Department Main Control Room Standards; Rev. 4  
AR 349637-02; Quarterly CAP Trend Analysis Results for Operations; March through August 2004; 9/20/2004  
AR 258830-02; Quarterly CAP Trend Analysis Results for Operations; July through December 2004; 2/14/2005  
AR 249637-05; Quarterly CAP Trend Analysis Results for Engineering; March through August 2004; 9/28/2004  
AR 258830-05; Quarterly CAP Trend Analysis Results for Engineering; July through December 2004; 1/27/2005  
AR 286150-05; Quarterly CAP Trend Analysis Results for Engineering; October through March 2005; 6/21/2005  
Operability Determination 02-011; 2A & 2B DG Lube Oil Pressure Low; Rev.2  
Operability Determination 04-002; 1A DG Inlet Manifold Air Leak; Rev. 2  
Operability Assessment 96-038; Thru-bolts Found Missing on Air-intake Filters for the 1A, 2A and 2B Emergency DGs; 9/25/1996  
Operations Issues; 6/27/2005  
Byron Engineering Improvement Plan; 4/22/2005  
Engineering Excellence Plan; Rev. 22  
WR 99082524; Fuel Oil Leak from Cylinder R2 Fuel Pump Metering Rod; 1/27/2004  
WR 00126746; Oil Leaks from All Breather CAPS on Left and Right Side; 5/20/2005  
Work Order 00761749; Station Equipment Clearance and Tagging Surveillance; 2/25/2005  
Work Order 00785524; Station Equipment Clearance and Tagging Surveillance; 6/10/2005



Letter RS-04-109; Initial Response to NRC Bulletin 2004-01, Inspection of Alloy 82/182/600  
Materials used in the Fabrication of Pressurizer Penetrations and Steam Space Piping  
Connections at Pressurized Water Reactors, 7/27/2004  
CR B2001-01345; OE 12073, Failed Diodes Circuit Render Diesel Inoperable; 3/20/2001  
CR B2001-00459; OPEX Review of OE 11867 - DG Exhaust Temperature Increase; 1/31/2001

## LIST OF ACRONYMS AND INITIALISMS USED

ADAMS	Agency Wide Documents Access and Management System
AR	Action Request
ASME	American Society of Mechanical Engineers
AT	Action Tracking Item
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	Condition Report
DG	Diesel Generator
DRP	Division of Reactor Projects
ECP	Employee Concerns Program
INPO	Institute of Nuclear Power Operations
IR	Issue Report
NOS	Nuclear Oversight
NOSA	Nuclear Oversight Audit
NRC	Nuclear Regulatory Commission
OA	Other Activities
PARS	Publicly Available Records System
PI&R	Problem Identification and Resolution
RCS	Reactor Coolant System
WO	Work Order