October 30, 2001

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

SUBJECT: BYRON STATION, UNITS 1 AND 2
INSPECTION REPORT 50-454/01-11(DRP); 50-455/01-11(DRP)

Dear Mr. Kingsley:

On September 30, 2001, the NRC completed an inspection at the Byron Station, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on October 9, 2001, with Mr. R. Lopriore and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the NRC identified one issue which was of very low risk significance. The issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it was entered into your corrective action program, the NRC is treating the issue as Non-Cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you contest the Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region III; Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Byron Station.

In addition, since September 11, 2001, your Byron Station has assumed a heightened level of security based on a series of threat advisories issued by the NRC. Although the NRC is not aware of any specific credible threat against nuclear facilities, the heightened level of security was recommended for all nuclear power plants and is being maintained due to the uncertainty about the possibility of additional terrorist attacks. The steps recommended by the NRC include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with local law enforcement and military authorities, and limited access of personnel and vehicles to the site.

The NRC continues to interact with the Intelligence Community and to communicate information to Exelon Generation Company. In addition, the NRC has monitored maintenance and other activities which could relate to the site's security posture.

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

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

Sincerely,

/RA/

Ann Marie Stone, Chief
Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 50-454/01-11(DRP);
50-455/01-11(DRP)

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-454; 50-455
License Nos:	NPF-37; NPF-66
Report No:	50-454/01-11(DRP); 50-455/01-11(DRP)
Licensee:	Exelon Generation Company, LLC
Facility:	Byron Station, Units 1 and 2
Location:	4450 N. German Church Road Byron, IL 61010
Dates:	August 14 through September 30, 2001
Inspectors:	R. Skokowski, Senior Resident Inspector B. Kemker, Resident Inspector R. Alexander, Radiation Specialist, RIII J. Belanger, Senior Physical Security Inspector, RIII J. Gavula, Senior Reactor Inspector, RIII G. O'Dwyer, Reactor Engineer S. Orth, Senior Radiation Specialist, RIII T. Tongue, Project Engineer R. Winter, Reactor Inspector. RIII C. Thompson, Illinois Department of Nuclear Safety
Approved by:	Ann Marie Stone, Chief Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000454-01-11(DRP), IR 05000455-01-11(DRP), on 08/14-09/30/2001; Exelon Generation Company, LLC; Byron Station; Units 1 & 2. Operability Evaluations.

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

A. Inspector Identified Findings

Cornerstone: Barrier Integrity

Green. Following the July 26 and 27, 2001 failures of 1D steam generator power operated relief valve to fully stroke closed, a condition adverse to quality, the licensee failed to promptly correct the condition as evidenced by the similar failure of the same valve on August 10, 2001.

This finding had a credible impact on safety because the licensee did not identify and correct the cause of the failure of the valve to fully stroke closed, thus the valve could not be relied upon to fulfill the containment isolation function. Although this finding could have affected the integrity of the reactor containment, it did not result in an actual open pathway in the physical integrity of the reactor containment. Therefore, the inspectors determined that this finding was of very low safety significance. The inspectors identified a Non-Cited Violation for the failure to correct a condition adverse to quality. (Section 1R15).

Report Details

Summary of Plant Status

The licensee operated Unit 1 at on near full power during this inspection period, except for the following two unplanned power reductions.

- On the morning of September 11, 2001, operators reduced power to approximately 25 percent in response to inconsistent feedwater flow to the 1A steam generator caused by problems with the associated feedwater regulating valve. Following repairs to the valve, operators returned the unit to full power on the morning of September 13.

- On the evening of September 27, 2001, operators reduced power to approximately 25 percent in anticipation of a Technical Specification (TS) required shutdown when both divisions of safety injection (SI) became inoperable. The SI systems became inoperable because a leak developed while welding on the common suction line vent valve. Concurrent with the down power, repairs were made to the weld. Following repairs, the operators returned the unit to full power the during afternoon of September 28.

The licensee operated Unit 2 at or near full power for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors verified the system alignment of the equipment listed below during maintenance activities affecting the availability of associated redundant equipment:

- 1A Safety Injection System Train.

This safety related system was selected because it is designed to mitigate the consequences of a potential accident. The inspectors performed a walkdown of the accessible portions of the system and verified that the system lineup was in accordance with plant operating procedures and applicable system drawings as provided in the List of Documents Reviewed. The inspectors also assessed the material condition of system equipment and verified that identified discrepancies were properly captured in the licensee's corrective maintenance program.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors examined the plant areas listed below to observe conditions related to fire protection:

- 2A Centrifugal Charging Pump Room (Zone 11.3D-2),
- 2A Safety Injection Pump Room (Zone 11.3A-2), and
- 2A Residual Heat Removal Pump Room (Zone 11.2A-2).

These areas were selected for inspection because risk significant systems, structures and components were located in the areas. The inspectors reviewed applicable portions of the Byron Station Fire Protection Report and assessed the licensee's control of transient combustibles and ignition sources, material condition, and operational status of fire barriers and fire protection equipment. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors evaluated the licensee's implementation of the maintenance rule, 10 CFR 50.65, as it pertained to identified performance problems with the following equipment and systems:

- Plant Process Computers,
- Steam Generator Blowdown System, and
- Main Turbine Digital Electrical Hydraulic Control System.

During this inspection, the inspectors evaluated the licensee's monitoring and trending of performance data, verified that performance criteria were established commensurate with safety, and verified that the equipment failures were appropriately evaluated in accordance with the maintenance rule. The documents listed at the end of this report were also used by the inspectors to evaluate this area. The inspectors interviewed system engineers and the station's maintenance rule coordinator.

In addition, the inspectors reviewed the issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance. The inspectors also reviewed the licensee's corrective actions for the issues documented in selected condition reports.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk for maintenance activities on the following equipment:

- 1A Essential Service Water Train,
- 1A Feedwater Regulating Valve, and
- 125V DC Battery Charger 212.

The inspectors selected these maintenance activities because they involved systems which were risk significant in the licensee's risk analysis. The maintenance activity associated with the 1A Feedwater Regulating Valve was considered emergent work to make repairs. During this inspection, the inspectors assessed the operability of redundant train equipment, and verified that the licensee's planning of the maintenance activities was completed in accordance with the licensee procedures. Furthermore, the inspectors verified that the licensee minimized the length of time that the plant was subject to increased risk. The documents listed at the end of this report were also used by the inspectors to evaluate this area. The inspectors also interviewed operations, engineering, maintenance, and work control department personnel.

In addition, the inspectors reviewed the issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance. The inspectors also reviewed the licensee's corrective actions for the issues documented in selected condition reports.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions (71111.14)

.1 Unit 2 Unplanned Power Excursion

a. Inspection Scope

The inspectors reviewed the issues associated with the April 27, 2001 unplanned power excursion at Unit 2 resulting from the transfer of turbine control from manual to automatic. Specifically, the inspectors reviewed that the licensee appropriately characterized the issues associated with this event and adequately evaluated the significance. Also, the inspectors reviewed the licensee's root cause evaluation, corrective actions for the issues and other documents as listed at the end of this report

b. Findings

No findings of significance were identified.

.2 Unit 1 Unplanned Down Power Due to Feedwater Flow Inconsistencies

a. Inspection Scope

The inspectors reviewed the licensed operators performance during the September 11, 2001 feedwater flow inconsistencies caused by 1A feedwater regulating valve problems, and the subsequent plant down power to approximately 25 percent in support of repairs to the valve. The inspectors reviewed the applicable procedures and other documents as listed in the back of this report to verify operators' adherence. In addition, the inspectors observed the control room activities during the event to assess the command and control provided by the shift management.

b. Findings

No findings of significance were identified

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors evaluated the licensee's basis that the issues identified in the following condition reports did not render the involved equipment inoperable or result in an unrecognized increase in plant risk:

- CR B2001 - 03519, "Failure of 1A EDG to Execute the Cooldown Cycle During Shutdown", and
- CR B2001-03472, "Unplanned Limiting Condition for Operation Action Requirement Entry 1MS018D Surveillance Failure".

The inspectors interviewed engineering, regulatory assurance, and operations department personnel and reviewed the applicable portions of the Updated Final Safety Analysis Report (UFSAR) and TSs. The documents listed at the end of this report were also used by the inspectors to evaluate this area.

b. Findings

The inspectors identified one Green finding. The licensee failed to promptly identify and correct the cause of the 1D SG power operated relief valve (PORV), 1MS018D, to fully stroke closed following the successive test failures. This finding was dispositioned as a Non-Cited Violation. No additional findings were identified with the other operability issue reviewed.

While performing a quarterly stroke time surveillance test of 1MS018D on July 26, 2001, the valve's position indicated intermediate when the operators attempted to close the valve. The valve position limit switch was manually made up and a second stroke time

test was performed. Although the valve was pre-conditioned for this second stroke time test, the stoke time obtained was slower than expected and was outside the normal range of times established by the licensee's Inservice Test Program. The licensee performed a third stoke time test of 1MS018D on July 27, 2001, to investigate the slow stroke time. The valve's position again indicated intermediate when the valve was stroked closed. Locally, operators verified that the valve was about 15 percent open. The licensee declared 1MS018D inoperable and left the valve isolated by closing its associated manual isolation valve to comply with the requirements of the TSs.

Over the next several days, the licensee performed maintenance checks on 1MS018D in an attempt to determine why the valve failed to fully stroke closed. Maintenance craftsmen checked the valve's hydraulic fluid reservoir level, found it to be slightly low and added fluid. The craftsmen checked the valve's nitrogen pre-charge, found it to be slightly low and added nitrogen. The craftsmen also bled a very small amount of air from the valve's hydraulic fluid system. Following a successful stroke time test on August 1, 2001, the licensee declared 1MS018D operable without identifying and correcting the cause for the valve's earlier failure to fully stroke closed. On August 10, 2001, while performing another stroke time surveillance test, 1MS018D again failed to fully stroke closed. The licensee declared 1MS018D inoperable and left the valve isolated by its associated manual isolation valve.

Following the August 10, 2001 surveillance test failure, the licensee performed extensive troubleshooting, tested and replaced several active components in the valve's hydraulic control system, and performed additional stroke time testing before declaring 1MS018D operable. The licensee concluded that the most probable cause for 1MS018D's failure to fully close was the change in performance of an emergency solenoid valve in combination with the leakage characteristics of a check valve in the valve's hydraulic control system. This was determined to be the most probable cause because the performance of 1MS018D improved significantly when these two components were replaced and subsequent stroke time surveillance test results for the valve were acceptable.

The inspectors determined that the licensee did not identify and correct the cause for 1MS018D to fully stroke closed following the surveillance test failures on July 26 and 27, 2001. This was based on the similar failure of the same valve on August 10, 2001, and by the information provided in the licensee's associated condition report evaluations. Specifically, the evaluations described that the maintenance checks performed after the initial valve failures found no serious problems that would have affected the stroking capability of the valve. Furthermore, following the repairs after the August 10 failure, the performance of the valve improved significantly.

The design basis safety function of the steam generator power operated relief valves is twofold. First, the valves provide a method for cooling the reactor plant to residual heat removal entry conditions if the preferred heat sink via the steam dump system to the main condenser is not available. Second, the valves are containment isolation valves and must be capable of automatic closure or be manually isolated as required by TS. Based on the inspectors review, it was determined that the failure only affected the containment isolation function of the valve. Furthermore, this issue was determined to have a credible impact on safety because the licensee did not identify and correct the

cause of the failure of the valve to fully stroke closed, thus the valve could not be relied upon to fulfill the containment isolation function. This could have affected the integrity of the reactor containment. The inspectors evaluated the failure to identify and correct the cause of the 1MS018D to fully stroke closed using the Significance Determination Process (SDP) and concluded that the issue was of very low safety significance (Green), because the failure did not result in an actual open pathway in the physical integrity of the reactor containment.

10 CFR Part 50, Appendix B, Criteria XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures are promptly identified and corrected. Following the July 26 and 27, 2001 failures of 1D steam generator power operated relief valve to fully stroke closed, a condition adverse to quality, the licensee failed to promptly correct the condition as evidenced by the similar failure of the same valve on August 10, 2001. This is considered to be a violation of 10 CFR Part 50, Appendix B, Criteria XVI. In accordance with Section V1.A.1 of the NRC Enforcement Policy, this violation is being treated as a Non-Cited Violation (50-454-01-11-01(DRP)). This issue was entered into the licensee's corrective action program as Condition Report B2001-00074404.

1R16 Operator Work-Arounds (71111.16)

a. Inspection Scope

The inspectors evaluated the operator work-arounds (OWAs) listed below to identify any potential affect on the functionality of mitigating systems or on the operators' response to initiating events:

- OWA 256 Erratic Operation of Unit 1 Steam Generator Blowdown Condenser Hotwell Pumps, and
- OWA 258 Unit 2 Boric Acid Controller Overshoot.

The inspectors selected OWA 256 to review because operation of the Unit 1 steam generator blowdown system has been complicated by erratic flow control and frequent trips of the condenser hotwell pumps. The inspectors selected OWA 258 to review a problem with the Unit 2 boric acid controller overshooting during additions of boric acid to the reactor coolant system, which has the potential to complicate operator response to plant transients. The inspectors interviewed operating and engineering department personnel and reviewed applicable procedures and documents which are listed in the back of this report.

In addition, the inspectors reviewed the issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance. The inspectors also reviewed the licensee's corrective actions for the issues documented in selected condition reports.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors evaluated the licensee's post maintenance testing activities for maintenance conducted on the following equipment:

- 1A Emergency Diesel Generator,
- 1D Steam Generator Power Operated Relief Valve, and
- Unit 1 Safety Injection (SI) System Common Suction Line High Point Vent Valve.

The inspectors selected these post maintenance activities because they involved systems which were risk significant in the licensee's risk analysis.

The inspectors reviewed the scope of the work performed and evaluated the adequacy of the specified post maintenance testing. The inspectors verified that the post maintenance tests were performed in accordance with approved procedures, that the procedures clearly stated acceptance criteria, and that the acceptance criteria were met. For the Unit 1 SI system common header high point vent valve, the inspectors verified that the weld repair was completed in accordance with the applicable American Society of Mechanical Engineers (ASME) code requirements. During these inspection activities, the inspectors interviewed operations, maintenance, and engineering department personnel and reviewed the completed post maintenance testing documentation.

In addition, the inspectors reviewed the issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance. The inspectors also reviewed the licensee's corrective actions for the issues documented in selected condition reports.

b. Findings

Except for the finding associated with the 1A SG PORV discussed in Section 1R15, no findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors evaluated the surveillance testing activities listed below to verify that the testing demonstrated that the equipment was capable of performing its intended function:

- Unit 1 Train A Emergency Diesel Generator Monthly Surveillance Test, and
- Unit 1 Train B Emergency Diesel Generator Semi-Annual Surveillance Test.

The inspectors selected these surveillance test activities because the system functions were identified as risk significant in the licensee's risk assessment and the components were credited as operable in the licensee's safety analysis to mitigate the consequences

of a potential accident. The inspectors verified that testing was adequate to complete the requirements specified in the TS and UFSAR. Additionally, the inspectors interviewed operations, maintenance, and engineering department personnel, reviewed the completed test documentation, and observed the performance of all or portions of these surveillance testing activities.

The inspectors also observed the licensee's initial response to a licensee-identified failure to perform appropriate testing on the main steam isolation valves.

In addition, the inspectors reviewed the issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance. The inspectors also reviewed the licensee's corrective actions for the issues documented in selected condition reports.

b. Findings

No findings of significance were identified.

On September 27, 2001, the licensee identified that TS surveillance requirement 3.7.2.1, which verified the closure time of each main steam isolation valve (MSIV), and TS surveillance requirement 3.7.2.2, which verified each MSIV closes on an actual or simulated actuation signal, were not conducted in accordance with technical requirements. Specifically, the TS Basis stated that these surveillances were to be performed in operational Mode 3. The licensee determined that the surveillance tests for Unit 1 and Unit 2 MSIVs were conducted in Mode 4. The licensee entered TS 3.0.4 which required the licensee to perform these tests within 24 hours. Because both units were in Mode 1, the licensee requested a Notice of Enforcement Discretion to prevent plant shutdown. The NRC granted the Enforcement Discretion based on no increase in risk and a technically adequate correlation between testing in Mode 3 and Mode 4. The licensee's failure to perform the TS surveillance in the correct mode of operation is an unresolved item (URI 50-454/455-01-10-02(DRP)) pending review of the licensee's extent of condition evaluation.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Plant Walkdowns and Radiological Boundary Verification

a. Inspection Scope

The regional radiation protection inspector conducted walkdowns of the radiologically protected area (RPA) to verify the adequacy of radiological boundaries and postings. Specifically, the inspector walked down several radiation and high radiation area boundaries in the Auxiliary, Radwaste, and Fuel Handling Buildings, and around the

containment access facilities for both units. Confirmatory radiation measurements were taken to verify that these areas were properly posted and controlled in accordance with 10 CFR Part 20, licensee procedures and TSs. The radiation work permit for general tours was reviewed for electronic dosimeter alarm set points and protective clothing requirements.

b. Findings

No findings of significance were identified.

.2 Identification and Resolution of Problems

a. Inspection Scope

The regional radiation protection inspector reviewed licensee CRs completed in recent months which focused on access control to radiologically significant areas. The inspector reviewed these documents to assess the licensee's ability to identify repetitive problems, contributing causes, the extent of conditions, and implement corrective actions to achieve lasting results.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation (71121.03)

.1 Tests and Calibrations of Radiation Monitoring Instrumentation

a. Inspection Scope

The regional radiation protection inspector reviewed calibration and surveillance records for radiological instrumentation associated with monitoring transient high and/or very high radiation areas, and instruments used for remote emergency assessment to verify the calibrations were conducted consistent with industry standards and in accordance with station procedures. The inspector reviewed the Updated Final Safety Analysis Report (UFSAR) and performed walkdowns to confirm that selected area radiation monitors (ARMs) were located as described. The inspector reviewed the licensee's alarm setpoints for selected ARMs to verify that the set points were established consistent with the UFSAR, TSs, and the station's Emergency Plan. Specifically, the inspector selectively reviewed calibration procedures and calendar years 1999 - 2001 calibration records for the following radiation monitoring instrumentation:

- Fuel Handling Building (426' Elevation) Incident ARM (0RE-AR055),
- Units 1 & 2 Containment High Range ARMs (1RE-AR020 & 2RE-AR021),
- Units 1 & 2 Control Room ARMs (1RE-AR010 & 2RE-AR010 - 0AR-062 Loop), and
- Unit 1 Containment Atmosphere Radiation Monitor System (1RE-PR011).

The inspector discussed surveillance practices and reviewed calendar years 2000-2001 calibration records and procedures for selected radiation monitors used for assessment of internal exposure, and those instruments utilized for surveys of personnel and equipment prior to egress from the RPA. The inspector observed radiation protection (RP) staff complete functional tests of selected personnel contamination monitors, portal monitors, and small article monitors to confirm that these instruments were source tested and calibrated adequately, and consistent with station procedures and industry standards. These instruments included:

- Canberra Fastscan Whole Body Counting Systems (B1 & B2),
- Eberline PM-7 Portal Monitors,
- NE Technology IPM-7/8 Whole Body Frisking Monitors, and
- NE Technology Small Articles Monitors (SAM 9 & SAM 11).

The inspector also reviewed instruments stored in the licensee's calibration facility and verified that those "ready for use" had current calibrations, were operable, and in good physical condition. The inspector observed RP staff source check portable radiation survey instruments and conduct a 6 month calibration of a portable ion chamber survey instrument to confirm that those tests were completed adequately using appropriate radiation sources and in accordance with station procedures.

Additionally, the inspector performed a walkdown of the post accident sampling system and reviewed quality control records to ensure that the system was capable of obtaining representative samples of the reactor coolant system.

b. Findings

No findings of significance were identified.

.2 Respiratory Protection Program

a. Inspection Scope

The regional radiation protection inspector reviewed aspects of the licensee's respiratory protection program for compliance with the requirements of Subpart H of 10 CFR Part 20, to ensure that self-contained breathing apparatus (SCBA) were properly maintained and stored, and to ensure that personnel required to don SCBAs were qualified. Specifically, the inspector reviewed the monthly testing records (calendar years 2000 - 2001) for SCBAs located in various areas within the site. The inspector also performed walkdowns of the SCBA storage locations and inspected a sample of the units to assess the material condition of the equipment. In addition, the inspector reviewed the licensee's current training and qualification records to verify that applicable emergency response, fire brigade, and control room personnel were currently trained and qualified for SCBA use, as required by the Emergency Plan, UFSAR, and plant procedures.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The regional radiation protection inspector reviewed: (1) the results of a focus area self-assessment of radiation protection instrumentation completed by the RP staff in August 2001; (2) Nuclear Oversight field observations of the RP program completed in calendar year 2001 as they relate to the radiation instrumentation program; and (3) the licensee's CR database and numerous individual CRs related to radiation monitoring instrumentation and the SCBA program generated in calendar years 2000-2001. The inspector evaluated the effectiveness of these processes to identify, characterize and prioritize problems, and to develop corrective actions.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection

3PP1 Access Authorization Program (Behavior Observation Only) (IP 71130-01)

a. Inspection Scope

The regional security inspector interviewed five supervisors and six non-supervisors (both licensee and contractor employees) to determine their knowledge level and practice of implementing the licensee's behavior observation program responsibilities. Selected procedures pertaining to the Behavior Observation Program and associated training activities were also reviewed. Also, licensee fitness-for-duty semi-annual test results were reviewed. In addition, the inspector reviewed a sample of licensee self-assessments, audits, and security logged events. The inspector also interviewed security managers to evaluate their knowledge and use of the licensee's corrective action system.

b. Findings

No Findings of significance were identified.

3PP2 Access Control (Identification, Authorization and Search of Personnel, Packages, and Vehicles) (IP 71130.02)

a. Inspection Scope

The regional security inspector reviewed the licensee's protected area access control testing and maintenance procedures. The inspector observed licensee testing of all access control equipment to determine if testing and maintenance practices were performance based. On two occasions, during peak ingress periods, the inspector observed in-processing search of personnel, packages, and vehicles to determine if search practices were conducted in accordance with regulatory requirements. Interviews were conducted and records were reviewed to verify that security staffing levels were consistently and appropriately implemented. Also, the inspector reviewed the licensee's process for limiting access to only authorized personnel to the protected area and vital equipment by a sample review of access authorization lists and actual vital area entries. The inspector reviewed the licensee's program to control hard-keys and computer input of security-related personnel data.

The regional security inspector reviewed a sample of licensee self-assessments, audits, maintenance request records, and security logged events for identification and resolution of problems. In addition, the inspector interviewed security managers to evaluate their knowledge and use of the licensee's corrective action system.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The resident inspectors verified the following performance indicator (PI) for both units:

- Safety System Functional Failures.

The inspectors reviewed events or conditions reported in Licensee Event Reports (LER) from July 2000 to June 2001, that prevented, or could have prevented, the fulfillment of a safety function.

The regional radiation protection inspector reviewed the licensee's assessment of its PI for occupational radiation safety, to determine if indicator-related data was adequately assessed and reported. Since no reportable events were identified by the licensee for the 3rd and 4th quarters of calendar year 2000 and of the 1st and 2nd quarters of calendar year 2001, the inspector compared the licensee's data with the CR database for these time periods to verify that there were no unaccounted for occurrences in the

Occupational Radiation Safety PI as defined by Nuclear Energy Institute Document 99-02, Revision 1.

The regional security inspector verified the data for the Physical Protection PIs pertaining to Fitness-For-Duty Personnel Reliability, Personnel Screening Program, and Protected Area Security Equipment. Specifically, a sample of plant reports related to security events, security shift activity logs, fitness-for-duty reports, and other applicable security records were reviewed for the period between October 1, 2000 and September 1, 2001.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

During this inspection, the inspectors identified one green finding related to the the cross-cutting issue of corrective actions. Specifically, inadequate corrective actions taken by the licensee to address the July 26 and 27, 2001 test failures of the 1D steam generator power operated relief valve allowed the subsequent failure of the valve on August 10, 2001. The details of this finding are provided in Section 1R15 of this report.

4OA3 Event Followup

(Closed) Licensee Event Report (LER) 50-455-01-02-00: "Manual Reactor Trip Due to a Decreasing Steam Generator Level Caused by a Failed Positioner on an Air Operated Feedwater Regulating Valve." On June 26, 2001, Unit 2 experienced a decreasing steam generator (SG) level due to a failure of the 2D Feedwater Regulating Valve. In anticipation of an Automatic Reactor Trip, the reactor operator initiated a manual reactor trip. The reactor trip system responded as expected and shutdown the reactor. All safety-related equipment operated as designed. However, during post trip recovery, operators failed to maintain appropriate SG levels, which resulted in an unplanned reactor trip signal and a second automatic start of the 2B Auxiliary Feedwater Pump. The inspectors reviewed the licensee root cause and corrective actions associated with the event as captured in Condition Reports (CRs) B2001-02856 and B2001-02585. No findings of significance were identified during this review and the LER is closed.

4OA5 Other

(Closed) Unresolved Item 50-454/00-08-01 (DRS); 50-455/00-08-01 (DRS): A maintenance activity planned for June 2000 would have rendered TS 3.7.9.E non-conservative. The inspectors initiated a task interface agreement (TIA) 2000-11 to NRR personnel for additional guidance on the acceptability of de-watering a river screenhouse intake bay for maintenance. This activity would have temporarily rendered a TS action statement water level non-conservative. The licensee had proposed that administrative limits be placed on the level during the maintenance activity. NRR personnel responded to the TIA stating that licensees may not knowingly make a TS non-conservative even if it is only temporary. Therefore, this practice of de-watering a river screenhouse would require a change to the applicable TS. Because the

maintenance activity was postponed and subsequently was not performed, no violation occurred. A copy of the TIA can be obtained through the NRC's document retention process, ADAMS, under "ML011780508."

4OA6 Meetings

.1 Interim Exits

The results of the Occupational Radiation Safety and Security Inspections were presented to S. Kuczynski and other members of licensee management at the conclusion of the inspections on August 31, 2001 and September 14, 2001, respectively. The licensee acknowledged the findings presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Exit Meeting

The inspectors presented the inspection results to Mr. R. Lopriore and other members of licensee management at the conclusion of the inspection on October 9, 2001. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

KEY POINTS OF CONTACT

Licensee

B. Altman, Maintenance Manager
R. Blaine, Radiation Protection Manager
D. Combs, Security Manager
D. Drawbaugh, NRC Coordinator
S. Gackstetter, Shift Operations Superintendent
B. Grundmann, Regulatory Assurance Manager
K. Hansing, Nuclear Oversight Manager
M. Heinzer, Nuclear Oversight
D. Hoots, Operations Manager
W. Kolo, Work Management Director
R. Krohn, Security Analyst
J. Kuczynski, Radiation Protection Technical Support Supervisor
S. Kuczynski, Station Manager
J. Langan, Regulatory Assurance
R. Lopriore, Site Vice President
D. Martin, Security Analyst
D. Palmer, Radiation Protection
T. Roberts, Engineering Manager
T. Schuster, Executive Assistant
D. Spoerry, Training Manager
D. Thompson, Radiation Protection Dose Assessment Health Physicist
W. Walter, Work Controls

Nuclear Regulatory Commission

A. Stone, Chief, Projects Branch 3, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-454-01-11-01	NCV	Inadequate Corrective Actions following SG PORV Test Failures
50-454/455-01-11-02	URI	Failure to Perform MSIV Surveillance Testing in the Correct Mode

Closed

50-455-01-02-00	LER	Manual Reactor Trip Due to a Decreasing Steam Generator Level Caused by a Failed Positioner on an Air Operated Feedwater Regulating Valve
50-454/455-00-08-01	URI	NRR Review of 10 CFR 50.59 Evaluation of Dewatering Activity
50-454-01-11-01	NCV	Inadequate Corrective Actions following SG PORV Test Failures

LIST OF ACRONYMS USED

AF	Auxiliary Feedwater
ARM	Area Radiation Monitor
ASME	American Society of Mechanical Engineers
BCP	Byron Chemistry Procedure
BIP	Byron Instrument Procedure
BIS	Byron Instrument Surveillance
BISR	Byron Instrument Maintenance Surveillance Requirement Procedures
BOL	Byron Operating Limit Procedure
BOP	Byron Operating Procedure
BOSR	Byron Operating Surveillance Requirement Procedure
BRP	Byron Radiation Protection Procedure
BVSR	Byron Technical Surveillance Requirement Procedure
CFR	Code of Federal Regulations
CR	Condition Report
DC	Direct Current
DEHC	Digital Electro-Hydraulic Control
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generator
FASA	Focused Area Self-Assessment
FFD	Fitness-For-Duty
HRSS	Highly Radioactive Sampling System
IST	In-service Testing
LCOAR	Limiting Condition for Operation Action Requirement
LER	Licensee Event Report
MSIV	Main Steam Isolation Valves
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NSP	Nuclear Station Procedure
OWA	Operator Work-Around
PI	Performance Indicator
PMT	Post Maintenance Testing
PORV	Power Operated Relief Valve
RPA	Radiologically Protected Area
RP	Radiation Protection
SCBA	Self-Contained Breathing Apparatus
SDP	Significance Determination Process
SG	Steam Generator
SI	Safety Injection
SX	Essential Service Water
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VIO	Violation
WR	Work Request

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

	Byron Station TSs	
	Byron/Braidwood Stations Updated Final Safety Analysis Report	
Byron Operating Procedure (BOP) SI-E1A	Safety Injection System Train "A" Electrical Lineup	Revision 1
BOP SI-M1A	Safety Injection System Train "A" Valve Lineup	Revision 1
Drawing M-61	Diagram of Safety Injection System	Revision AM

1R05 Fire Protection

	Byron/Braidwood Stations Fire Protection Report	
	Byron Station Pre-Fire Plans and Drawings	
Condition Report (CR) 00074421 [1]	Housekeeping items Noted by NRC Resident	September 05, 2001
CR 00075492 [1]	NRC Observation on a Degraded Door that is a Vent Barrier	September 17, 2001

1R12 Maintenance Rule Implementation

CR B2001-00248	U-1 Main Turbine Digital Electro-Hydraulic Control (DEHC) Unexpected Transfer From Sequential to Single Valve Control	January 17, 2001
CR B2001-00251	Trend on Diesel Fuel Oil Pump Relief Valve Replacement	January 17, 2001
CR B2001-00283	Steam Leak From Compression Fitting	January 20, 2001
CR B2001-00831	Failure of U-2 Turbine Vibration Supervisory Module	February 23, 2001
CR B2001-00855	U-1 Blowdown Flow Cycling	February 27, 2001

CR B2001-00875	OB Primary Water Make-up (MU) Pump Excessive	February 27, 2001
CR B2001-00915	Unexpected/Unplanned Limiting Condition for Operation Action Requirement (LCOAR) Entry on Over Temperature Delta T Loop	March 1, 2001
CR B2001-00924	Unplanned LCOAR Entry for U-1 Loop B Overpower Delta T Channel	March 1, 2001
CR B2001-00270	Unit 2 Process Computer Failure	January 19, 2001
	Periodic NRC Maintenance Rule Data Requests	February 2, 2001
	EH Maintenance Rule - Performance Criteria	August 24, 2001
Nuclear Station Procedure (NSP) ER-3010	Maintenance Rule	Revision 0
	Maintenance Rule Performance Monitoring Data for Criteria CX-1, Process Computer and Interface With the Main Control Room	July 1, 1999 through June 30, 2001
NUMARC 93-01	Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	Revision 2
	Byron Station Nuclear Information System Areas Self-Assessment	4th Quarter 2000
	Byron Station Nuclear Information System Areas Self-Assessment	3rd Quarter 2000
	Byron Station Nuclear Information Technology Areas Self-Assessment	2nd Quarter 2001
	Byron Nuclear Information System Metrics Report	2000
	Byron Nuclear Information System Metrics Report	2001
Operational Experience 12673	Feedwater Pump Minimum Flow Valve Drifted Open Due to Missing Washer in Valve Positioner	July 26, 2001
Work Request (WR) 00358460	Flow Control Demand 10% Higher Than Other Valves	September 11, 2001

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

CR 00075490	Delay in 1A Essential Service Water (SX) & OA WS PP C/O Placement	September 17, 2001
CR 00075507	1A SX Pump Work Window Delayed Due to Isolation Problems	September 18, 2001
CR 00075740	1SX001A Failed to Fully Open Delaying LCOAR Exit	September 18, 2001
Procedure WC-AA-103	On-Line Maintenance	Revision 3
WC-AA-110 Troubleshooting Plan	Battery Charger 212 Ammeter Calibration Questionable - Voltmeter Calibration Questionable	September 26, 2001
Byron Operating Department Policy No. 400-47	On Line Risk/Protected Equipment	Revision 2
WR 00340438-01	Troubleshoot 2DC04E Equalize/Amps Circuitry	September 18, 2001
WR 99047957-01	Contingency Bus 212 Charger	September 18, 2001
WR 99047957-04	EM Install Load Bank - Perform Adjustments/Voltage Checks	September 18, 2001

1R14 Personnel Performance During Non-routine Plant Evolutions

2 Byron General Operating Procedure (BGP) 100-5	Plant Shutdown and Cooldown	Revision 24
2BEP ES-0-1	Reactor Trip Response - Unit 2	Revision 100
CR 00074907	1FW510 Positioner Washer Missing Causes Derating to 25% Power	September 11, 2001
Prompt Investigation Report CR B2001-02856	Unit 2 Reactor Trip due to D loop feedwater regulating valve (2FW540) failing closed	June 26, 2001
CR B2000-03201	1FW530 Failure to Modulate Feedwater Flow	October 22, 2000
CR B2001-01091	Unexpected Governor Valve (GV) Response During Power Up-Rate Digital Electro-Hydraulic (DEHC) Software Upgrade	March 13, 2001

CR B2001-01164	DEHC Simulator Fidelity	March 19, 2001
CR B2001-01975	Transfer of Turbine Control from Manual to Automatic Results in Unplanned Power Excursion and LCOAR Entry	April 27, 2001
CR B2001-02013	Observations from the Unit 2 DEHC Meeting	May 1, 2001
CR B2001-02064	Unexpected Response of Unit 2 #4 GV during Ramp to Full Power	May 3, 2001
CR B2001-02098	DEHC Power Excursion	May 7, 2001
CR B2001-02856	Unit 2 Rx trip due to 2FW540 failed closed	June 26, 2001
CR B2001-02858	Second Auto Start of the 2B Auxiliary Feedwater (AF) Pump following a Reactor Trip	June 26, 2001
CR B2001-03377	Root Cause Rejected by MRC	August 2, 2001
Prompt Investigation Report CR B2001-01975	Transfer of Turbine Control from Manual to automatic Operation Results in Unplanned Power Excursion	
NUMARC 93-01	Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	April 1996, Revision 2
ANSI N18.7	Administrative controls and quality assurance for the operational phase of nuclear power plants	1976
Root Cause 56045.2B	Second Auto Start of 2B AF Pump Following a Rx Trip	August 24, 2001
AD-AA-104-101	Procedure Use and Adherence	Revision 0
Root Cause Evaluation 00051002	Transfer of Turbine Control from Manual to Automatic Operation Results in Unplanned Power Excursion Greater Than 100 Reactor Power (CR B2001-01975)	September 4, 2001
NSP-CC-3021	Control of Computer Software and Service	Revision 0
NSP-CC-AA-102	Design Impact Screening	Revision 2

1R15 Operability Evaluations

	Byron Station TSs	
	Byron/Braidwood Stations Updated Final Safety Analysis Report	
NSP CC-3001	Operability Determination Process	Revision 0
NRC Generic Letter 91-18	Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions	Revision 1
NRC Inspection Manual, Part 9900	Operable/Operability: Ensuring the Functional Capability of a System or Component	October 8, 1997
Unit 0 Byron Operating Limits Procedure (BOL) IST1	LCOAR [Limiting Condition for Operation Action Requirement] IST [Inservice Test] - ASME [American Society of Mechanical Engineers] Stroke Times	Revision 0
1BEP-2	Faulted Steam Generator Isolation - Unit 1	Revision 100
1BEP-3	Steam Generator Tube Rupture - Unit 1	Revision 100 WOG-1C
1BOL 6.3	LCOAR Containment Isolation Valves	Revision 3
1BOL 7.4	LCOAR Steam Generator Power Operated Relief Valves	Revision 1
Unit 1 Byron Operating Surveillance Requirement Procedure (BOSR) 0.5-2.MS.3	Unit 1 Main Steam System Valve Indication Test	Revision 1
1BOSR 6.3.5-19	Unit 1 Main Steam System Containment Isolation Valve Stroke Test	Revision 2
Engineering Memo	1D Main Steam Power Operated Relief Valve Dual Indication (CR B2001-03304 & CR B2001-03309)	July 31, 2001
Engineering Memo	1MS018D Preconditioning Review	August 1, 2001
Engineering Memo	1D Main Steam Power Operated Relief Valve Dual Indication (CR B2001-03472)	August 21, 2001

Regulatory Assurance Memo	Restoration of Inoperable Components for the Purpose of Performing Operability Testing	August 21, 2001
Byron Station Shift Manager's Log		July 26, 2001 through August 10, 2001
CR B2001-03304	1D Steam Generator Power Operated Relief Valve 1MS018D Exceeds Administrative Stroke Time - Unplanned LCOAR 0BOL IST1	July 26, 2001
CR B2001-03309	1MS018D Dual Indication Resulting in Unplanned LCOAR	July 27, 2001
CR B2001-03472	Unplanned LCOAR Entry (1BOL 6.3 & 1BOL 7.4) 1MS018D Surveillance Test Failure	August 10, 2001
CR B2001-03490	Unplanned LCOAR Entry on 1MS018D, 0BOL IST1 Due to Stroke Time Out of Administrative Limit	August 12, 2001
CR B2001-03514	Failure of 1A DG to Execute the Cooldown Cycle during Shutdown	August 15, 2001
CR B2001-03523	1D Steam Generator Power Operated Relief Valve "O" Ring Improperly Installed	August 16, 2001
CR 00074404 [1]	1D MS PORV Ineffective Corrective Actions & Operability Documentation	September 5, 2001
Work Request (WR) 00344572	1D Steam Generator Power Operated Relief Valve Stroke Time Exceeded Administrative Limit	July 27, 2001
BAR 1-15-E2	MS Press Low - Alarm No.: 1-15-E2	Revision 3
BAP 300-1	OP-AA-101-101, Conduct of Operations Manual, Byron Addendum	Revision 18
Drawing M-152-sh15	Diagram of Diesel Generator Control Shutdown System	Revision J
Drawing 6E-1-4030DG31	Schematic Diagram Diesel Generator 1A Starting Sequence Control, 1DG01KA, Part 1	Revision AL
Drawing 6E-1-4030DG33	Part 3, Schematic Diagram Diesel Generator 1A Starting Sequence Control, 1DG01KA	Revision D

Drawing 6E-1-4030DG40	Schematic Diagram Diesel Generator 1A Shutdown & Alarm System 1DG01KA	Revision T

1R16 Operator Work-Arounds

NSP OP-AA-101-303	Operator Work-Around Program	Revision 0
CR B2000-00486	2A Steam Jet Air Ejector Operation	February 1, 2001
CR B2001-00637	Potential Operator Work-around From Chronically Failed Core Exit Thermocouples	February 11, 2001
CR B2001-01150	Operating the Motor Driven Feedwater Pumps in Manual May Be an Operator Work-around	March 17, 2001
CR B2001-02065	Unit 1 Blowdown Condenser Hotwell Pumps Abnormal Condition	May 3, 2001
CR B2001-02506	Potential Operator Work-around Identified During Quarterly Review	May 31, 2001
CR B2001-03030	Boration Did Not Stop When Desired Amount Reached	July 10, 2001
CR B2001-03081	Replacement Unit 2 Boric Acid Flow Totalizer Failure	July 13, 2001

1R19 Post Maintenance Testing

CR B2001-00246	1B EDG BIMBA CYC	January 17, 2001
CR B2001-00321	PMV Not Documented Correctly	January 22, 2001
CR B2001-00492	Incomplete Recording of Step Performance, Failure to N/A Step	February 1, 2001
CR B2001-00748	MPT Bank 5 Power Cable Not Reconnected	February 16, 2001
CR B2001-01201	Failure of 2PT-505 and 2PT-506 on Check per WR Operating Test	March 20, 2001
CR B2001-01435	Failed PMT [post maintenance test] for WRs on 2SI8965 A&B	April 5, 2001
CR B2001-01840	2 PS228A Failed Post Maintenance Local Leak Rate Test	April 19, 2001

CR B2001-03472	Unplanned LCOAR Entry (1BOL 6.3 & 1BOL 7.4) 1MS018D Surveillance Test Failure	August 10, 2001
CR B2001-03523	1D Steam Generator Power Operated Relief Valve “O” Ring Improperly Installed	August 16, 2001
CR 00076849	Weld Leak on 1SI081	September 27, 2001
WR 00346808	Contingency WR for Troubleshooting and Repair of 1MS018D	August 12, 2001
WR 99068302	Electrical Maintenance contingency Troubleshooting Package for Summer Availability	August 22, 2001
WR 00350475-03	1A EDG Shutdown on Incomplete Sequence, Please Troubleshoot	September 13, 2001
WR 00350475-04	PMT 1A EDG - Incomplete Sequence Repair	September 14, 2001
WR 00350475 05	Replace Speed Module 4rsm with New or Refurbished	September 13, 2001
WR 97124197	Weld in Modification for Vent for Safety Injection	September 25, 2001
1BOSR 8.1.2-1	Unit One 1A Diesel Generator Operability Monthly and Semi-Annual Surveillance	Revision 7
1BOSR 0.5-2.MS3	Unit 1 Main Steam System Valve Indication Test	Revision 1
1BOSR 6.3-5-19	Unit 1 Main Steam System Containment Isolation Valve Stroke Test	Revision 2
WC-AA-110	Troubleshooting	Revision 1
Engineering Memo	1D Main Steam Power Operated Relief Valve Dual Indication (CR B2001-03472)	August 21, 2001
Regulatory Assurance Memo	Restoration of Inoperable Components for the Purpose of Performing Operability Testing	August 21, 2001

1R22 Surveillance Testing

	Byron Station TSs	
	Byron/Braidwood Stations Updated Final Safety Analysis Report	
CR B2001-03514	Failure of 1A EDG to Execute the Cooldown Cycle During Shutdown	August 15, 2001
CR 00076389	1B EDG Surveillance Acceptance Criteria Not Determined	September 25, 2001
CR 00078994[1]	Inconsistency Noted by NRC During EDG Surveillance	October 15, 2001
1BOSR 8.1.2-1	Unit One 1A DG Operability Monthly and Semi-Annual Surveillance	Revision 7
1BOSR 8.1.2-1	1B DG Operability Monthly and Semi-Annual Surveillance	September 26, 2001 Rev. 6
BTC 1.16	Unit 1 DG Day Tanks 1DO02TA/B	Revision 0
BOP DG-11T2	Diesel Generator Operating Log	Rev. 11

2OS1 Access Control to Radiologically Significant Areas

	Focus Area Self Assessment: Internal Dose Assessment	August 8 - 10, 2001
CR B2001-00621	Radiation Protection (RP) Focused Area Self Assessment (FASA) High Radiation Area (HRA)/Standardized Posting Deficiencies	February 8, 2001
CR B2001-02554	Location of MMD Blue Tool is Not Consistent with As Low as Reasonably Achievable (ALARA) Principles	June 4, 2001
CR B2001-02562	RP FASA for Radworker Practices & RP Surveys/AFI's	June 4, 2001
CR B2001-03163	Radiological Posting Concern	July 18, 2001
CR B2001-03241	PASSPORT Access Control System Server Problems	July 24, 2001

2OS3 Radiation Monitoring Instrumentation

	Calibration of the Canberra Fastscan Whole Body Counter System - Fastscan (B1)	August 17, 2000
	Calibration of the Canberra Fastscan Whole Body Counter System - Fastscan (B2)	August 18, 2000
	Call-Out List for Generating Station Emergency Plan Staff Augmentation	Revision 04
	Emergency Preparedness Department Training and Reference Material: Respirator Qualifications for Emergency Responders	September 16, 1999
	Fire Brigade Roster	August 28, 2001
	Focus Area Self Assessment: Radiation Monitoring Instrumentation	August 14 - 17, 2001
	Self Contained Breathing Apparatus (SCBA) Training & Qualification Matrix	August 24, 2001
Byron Chemical Control Procedure (BCP) 400-T162	HRSS Operability Program Schedule	Revision 2
BCP 400-T103, Rev. 6	HRSS Performance Check Worksheet	April 2001 - August 2001
Byron Instrument Procedure (BIP) 2500-142, Rev. 1	Calibration of Auxiliary Building El. 451' Radiation Monitor (0AR-062) Control Room	January 3, 2000
BIP 2500-142, Rev. 4	Calibration of Auxiliary Building El. 451' Radiation Monitor (0AR-062) Control Room	May 8, 2001
Byron Instrument Surveillance (BIS) 3.3.1-212, Rev. 2	Calibration of Fuel Building Fuel Handling Incident Radiation Monitor - 0RE-AR055	January 11, 1999
BIS 3.3.1-214, Rev. 3	Calibration of Containment Atmosphere Radiation Monitor - 1RE-PR011	September 14, 1998

Byron Instrument Maintenance Surveillance Requirement Procedures (BISR) 3.3.2-207, Rev. 1	Calibration of High Range Containment Radiation Monitor - 1RE-AR020 - Probe Only	April 7, 1999
BISR 3.3.2-207, Rev. 2	Calibration of High Range Containment Radiation Monitor - 2RE-AR021	October 11, 1999
BISR 3.3.2-207, Rev. 2	Calibration of High Range Containment Radiation Monitor - 2RE-AR021 - Probe Only	October 28, 1999
BISR 3.3.2-207, Rev. 2	Calibration of High Range Containment Radiation Monitor - 2RE-AR021 - Probe Only	April 23, 2001
BISR 3.3.2-207, Rev. 3	Calibration of High Range Containment Radiation Monitor - 1RE-AR020	August 15, 2000
BISR 3.3.2-207, Rev. 3	Calibration of High Range Containment Radiation Monitor - 1RE-AR020 - Probe Only	September 29, 2000
BISR 3.8.3-200, Rev. 3	Calibration of Fuel Building Fuel Handling Incident Radiation Monitor - 0RE-AR055	June 20, 2000
BISR 4.15.4-200, Rev. 2	Calibration of Containment Atmosphere Radiation Monitor - 1RE-PR011	March 17, 2000
Byron Radiation Protection Procedure (BRP) 5510-13T1	Self-Contained Breathing Apparatus Inspection	Revision 3
BRP 5800-6T2, Rev. 1	Health Physics Portable Instrumentation Maintenance Record Sheet (ASP-1/AC-3-7), Serial No. 414	October 9, 2000
BRP 5800-7	Radiation Protection Instrumentation Test and Calibration	Revision 6
BRP 5800-7T1, Rev. 6	Calibration Record for Dose or Exposure Rate Survey Instruments, Model Bicron RSO-5, Serial No. B7275	June, 14, 1999; August 2, 2001
BRP 5821-3T3, Rev. 3	Portable Low Volume Air Sampler Calibration Record, Model H809VI, Serial No. 6049	July 11, 2000; January 4, 2001; August 2, 2001
BRP 5822-10	Operation and Calibration of the Eberline PM-7 Portal Monitors	Revision 7

BRP 5822-7	Operation and Calibration of the IPM-7/IPM-8 Whole Body Frisking Monitor	Revision 7
BRP 5822-11	Operation and Calibration of the Nuclear Enterprises Small Articles Monitor (SAM)	Revision 5
BRP 5823-35T1, Rev. 3	ASP-1/AC-3-7 Calibration Record (Alpha Frisker), Serial No. 414	February 14, 2000; March 6, 2001; August 20, 2001
BRP 5823-39T1, Rev. 9	MG Telepole Source Check Calibration Range Sheet, Serial No. 6696-012	February 13, 2001; August 6, 2001
CR 00073077	Instrumentation FASA Deficiencies and Recommendations	August 22, 2001
CR 00073147	RP Calibrated Instrumentation Control Program	August 23, 2001
CR 00073356	Additional Discrepancies Identified in RP FASA Follow-Up	August 27, 2001
CR 00073654	Local Rad Area Monitor (0AR044) Readings Are Incorrect	August 29, 2001
CR B2001-02764	Fire Brigade Readiness	June 19, 2001
CR B2001-02976	Out of Calibration Dose Rate Meters and Air Samplers Identified	July 5, 2001
CR B2001-03022	0PR32J Radiation Monitor Spiking	July 9, 2001
WR 970135904	High Range Containment - Replace CPU Board and EPROMs (2RE-AR021)	March 12, 2001
	Performance Indicator - Occupational Exposure Control Effectiveness	July 2000 - July 2001
	Exceeded Estimate on HIC Liner Prep for Shipment	April 2, 2001
	Regulatory Assessment Performance Indicator Guideline	Revision 1
	Performance Indicator Safety System Functional Failures	Revision 2
	Acceptance Criteria for the Control Room Ventilation System Train Monthly Surveillance Not Met Due to Human Performance Error	September 29, 2000

	Unintentional Violation of Low Temperature Over Pressure Protection System Technical Specification Due to Operator Error	November 7, 2000
	Unintentional Violation of Low Temperature Over Pressure Protection System Technical Specification Due to Operator Error, Supplement 1	March 28, 2001
	Reactor Power Limit Exceeded Due to Improperly Calculated Feedwater Mass Flowrate Utilized in Reactor Power Calorimetric	June 14, 2001
	Reactor Power Limit Exceeded Due to Improperly Calculated Feedwater Mass Flowrate Utilized in Reactor Power Calorimetric, Supplement 1	June 29, 2001
	Automatic Reactor Trip System Actuation From Low Steam Generator Level Caused by an Inappropriate Operator Response to a Failed Circuit Card in the Feedwater Flow Control Circuitry	August 25, 2000
	Multiple Main Steam Safety Valve Relief Tests Exceeded Required Tolerance Due to Disk to Nozzle Metallic Bonding	June 1, 2001

3 PPX Physical Protection

Procedure SY-AA-103-500	Access Authorization Program	Revision 2
Procedure SY-AA-103-511	Request For Unescorted Access	Revision 5
CR B2001-03240	FASA Identified Adverse Trend in Perimeter Intrusion Detection System Failure	June 6, 2001
Security Event Log		October 1, 2000 - September 1, 2001
Procedure SY-AA-101-120	Control of Security Keys and Cores	Revision 1

Security 3rd Quarter Focus Self-assessment Report/Byron Station Security	Access Authorization, Access Control, Security Plan Changes, and Collecting and Reporting Performance Indicator Data	July 24-27, 2001
Nuclear Oversight Continuous Assessment Report NOA-BY-01-1Q	January - March 2001	April 27, 2001
Byron Station Security Department 100 Day Plan	Start: 07-01-01 Complete: 09-30-01	Last Update: August 31, 2001
Security Top Ten Work Request List		August 21, 2001
OA3 Event Follow-up		
CR 00076845	U1 & U2 Main Steam Isolation Valves (MSIV) not Stroke Timed in Mode 3 as Required	September 26, 2001
NRC Inspection Manual Part 9900: Technical Guidance	Operations - Notices of Enforcement Discretion	December 12, 2000

[1] Condition Reports issued as a result of the inspection.