April 25, 2001

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: BYRON NUCLEAR POWER STATION
NRC INSPECTION REPORT 50-454/01-06(DRP); 50-455/01-06(DRP)

Dear Mr. Kingsley:

On March 31, 2001, the NRC completed an inspection at the Byron 1 and 2 reactor facilities. The enclosed report documents the inspection findings which were discussed on March 29, 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.

On March 31, 2001, the local International Brotherhood of Electrical Workers (IBEW) union contract with ComEd expired. Because negotiations between the union and Exelon (ComEd) management indicated that an agreement was not likely prior to expiration of the contract, the NRC conducted an inspection to evaluate the licensee's strike contingency plans. This inspection, conducted prior to the expiration of the contract at Byron, verified that the licensee's plans met all of the requirements of the Technical Specifications and Federal Regulations in the event that a strike were to occur.

Based on the results of this inspection, one issue of very low safety significance (Green) was identified. 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 a 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 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/

Michael J. Jordan, Chief
Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 50-454/01-06(DRP);
50-455/01-06(DRP)

cc w/encl: J. Skolds, Chief Operating Officer
C. Crane, Senior Vice President, Midwest ROG
J. Benjamin, Vice President Licensing
H. Stanley, Vice President, Midwest ROG Operations
R. Krich, Licensing Director, Midwest ROG
R. Helfrich, Senior Counsel, Nuclear
DCD - Licensing
R. Lopriore, Site Vice President
S. Kuczynski, Station Manager
P. Reister, Regulatory Assurance Manager
M. Aguilar, Assistant Attorney General
Illinois Department of Nuclear Safety
State Liaison Officer
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission

DOCUMENT NAME: G:\BYRO\byron 20010-06 drp.wpd

To receive a copy of this document, indicate in the box "C" = Copy without enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RIII		RIII						
NAME	Tongue:dtp		Jordan						
DATE	4/ /01		4/ /01						

OFFICIAL RECORD COPY

ADAMS Distribution:
AJM
DFT
GFD
GEG
HBC
EWC
C. Ariano (hard copy)
DRPIII
DRSIII
PLB1
JRK1

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-454; 50-455
License Nos:	NPF-37; NPF-66
Report No:	50-454/01-06(DRP); 50-455/01-06(DRP)
Licensee:	Exelon Generation Company, LLC
Facility:	Byron Generating Station, Units 1 and 2
Location:	4450 N. German Church Road Byron, IL 61010
Dates:	February 18 through March 31, 2001
Inspectors:	E. Cobey, Senior Resident Inspector B. Kemker, Resident Inspector N. Shah, Braidwood Resident Inspector J. Belanger, Senior Physical Security Inspector W. Scott, Reactor Engineer D. Chyu, Reactor Engineer C. Thompson, Illinois Department of Nuclear Safety
Approved by:	Michael J. Jordan, Chief Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000454-01-06(DRP), IR 05000455-01-06(DRP), on 02/18-03/31/2001; Exelon Generation Company, LLC; Byron Generating Station, Units 1 & 2. Permanent plant modifications.

The baseline inspections were conducted by resident inspectors and regional reactor engineers. 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). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Non-Cited Violation for the licensee's failure to accomplish appropriate post-modification testing requirements after installing stainless steel flexible hoses on the Unit 1 and Unit 2 centrifugal charging pumps. As a result, several of the hoses were improperly installed.

  The finding was of very low safety significance because there was no immediate failure concern for the hoses in question and the licensee entered this finding into its corrective action program (Section 1R17).

B. Licensee Identified Violations

No findings of significance were identified.

Report Details

Summary of Plant Status

The licensee operated Unit 1 and 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

a. Inspection Scope

The inspectors verified the system alignment of the 2B diesel generator (DG) and the 1A essential service water (SX) train while the 2A DG and 1B SX train, respectively, were out-of-service for maintenance. The systems were selected because they were identified as risk significant in the licensee's risk analysis. The inspectors performed walkdowns of the accessible portions of the systems and verified the system lineup and each of the system operating parameters (i.e., temperature, pressure, flow, etc.). During the 2B DG alignment activity, the inspectors also verified the alignment of the normal and reserve offsite power sources. The inspectors reviewed applicable portions of the Updated Final Safety Analysis Report and Technical Specifications and the procedures listed below:

- Byron Operating Procedure (BOP) DG-1, "Diesel Generator Alignment to Standby Condition," Revision 7;
- BOP AP-E2B, "Train 'B' Auxiliary Power System Electrical Lineup," Revision 3;
- BOP DG-M2B, "Train 'B' Diesel Generator System Valve Lineup," Revision 8;
- BOP SX-E1A, "Essential Service Water Train 'A' Electrical Lineup," Revision 2;
- BOP SX-M1A, "Train 'A' Essential Service Water System Valve Lineup," Revision 3; and
- Unit 2 Byron Operating Surveillance Requirement Procedure 8.1.1-1, "Normal and Reserve Offsite AC [Alternating Current] Power Availability Weekly Surveillance," Revision 3.

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 the following condition reports:

- B2000-02573 Main Steam Valves Required to Be Closed Found Open,
- B2000-02588 BOP CV-7 Procedure Deficiency Directing Boration of the Hold-up Tanks,

- B2000-02603 DG Fuel Oil Day Tank Level Gauge “Greenbanding” Not Consistent Between Units, and
- B2000-03307 Charger 2AF01EB Toggle Switch Found in Unexpected Position With Charger Out-of-Service.

The following condition reports were written as a result of inspector identified issues during this inspection:

- B2001-01250 Inadequate Corrective Actions Specified in Previous Condition Report,
- B2001-01292 2B DG Starting Air System Valve Found Out of Position By NRC Resident, and
- B2001-01337 Differences in Line Up Position Between DG-M2 and DG-M2A/B.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

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

- Main Control Room (Zone 2.1-0)

This area was selected for inspection because it was identified as risk significant in the Byron Station Individual Plant Examination of External Events. 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.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

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 fire protection system, the ultimate heat sink, and process radiation monitors for primary to secondary plant leakage that were documented in the following condition reports:

- B1999-02638 Unplanned LCOAR [Limiting Condition for Operation Action Requirement] Entry for 1PR027J,
- B1999-03066 1RE-PR027J Skid Failure - Loss of Sample Flow,
- B1999-03293 Unplanned LCOAR Entry on 2PR27J,
- B2000-01159 Unplanned LCOAR Entry on 1PR27J,
- B2000-01202 Entered Unplanned LCOAR For Hose Stations at River Screen House Due to Ring Header Low Pressure,
- B2000-01403 Unplanned LCOAR Entry on 1PR27J,
- B2000-02334 Radiation Monitor Recurring Loss of Sample Flow,
- B2000-02428 Unplanned LCOAR Entry on 2PR27J,
- B2000-03509 Motor Control Center 132Z1 Tripped When Opening Essential Service Water Riser Valve 0SX163F,
- B2000-03559 Unplanned Inoperability of 0C Essential Service Water Fan,
- B2000-03666 Unplanned LCOAR Entry - 1PR27J Failed,
- B2000-03669 Unplanned LCOAR Entry Due to Failed Fire Detection Instrumentation,
- B2000-03732 Unplanned LCOAR Entry - Failure to Receive Fire Trouble Alarm During Surveillance, and
- B2000-03747 Unplanned LCOAR Entry for 2PR27J.

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 inspectors also interviewed the station's maintenance rule coordinator and reviewed Nuclear Station Procedure ER-3010, "Maintenance Rule," Revision 0.

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 the following condition reports:

- B2000-00375 Maintenance Rule Functional Failure Monthly Review for December 2000,
- B2000-01139 Maintenance Rule Implementation Focus Self-Assessment Deficiencies,
- B2000-01217 2RY8033 Failed to Meet IST [In-service Testing] Stroke Time Requirements,
- B2000-01989 Broken Breaker,
- B2000-02034 Maintenance Rule Database In-scope Designation Depends on Security Level,
- B2000-02227 Unit 2 Digital Electrical Hydraulic Control Panel De-energizes,
- B2000-03670 Maintenance Rule Functional Failure Monthly Review for October 2000,
- B2000-03893 2RY8033 Valve and Actuator Inspection Results,

- B2000-03933 Maintenance Rule Functional Failure Monthly Review for November 2000,
- B2001-00252 Inappropriate Corrective Action to Prevent Recurrence for Trend 97-014,
- B2001-00296 1B Diesel Generator Jacket Water Pump Seal Repair Impact on Performance Indicators,
- B2001-00300 Results from Common Cause Analysis on the Process Radiation Monitoring System,
- B2001-00374 Maintenance Rule Peer Group Containment Closure Industry Event Review, and
- B2001-00865 Overfill of Teledyne Batteries.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk for planned maintenance activities on the 1B and 2B auxiliary feedwater trains, the 2A essential service water train, and 480 volt bus 232Z. The inspectors selected these maintenance activities because they involved systems which were risk significant in the licensee's risk analysis.

During this inspection, the inspectors assessed the operability of redundant train equipment and verified that the licensee's planning of the maintenance activities minimized the length of time that the plant was subject to increased risk. The inspectors also interviewed operations, engineering and work control department personnel and reviewed Nuclear Station Procedure WC-AA-103, "On-Line Maintenance," Revision 3.

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 the following condition reports:

- B2000-01654 Nuclear Generating Group Standards and Online Risk, and
- B2000-03113 Online Risk Not Properly Communicated Between Personnel and Work Control.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

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

- 99-038 Possible Voiding in Emergency Core Cooling System Injection Lines Due to Safety Injection Accumulator Check Valve Leakage, Revision 3;
- 01-004 1B Diesel Generator Fuel Oil Volume;
- 01-005 Byron Emergency Procedure ES1.3, Step 1, Could Cause Component Cooling Water Pump Run-out; and
- 01-006 1B Suction Isolation Valve (1SX001B) Failed to Fully Close.

The inspectors interviewed engineering department personnel and reviewed Nuclear Station Procedure CC-3001, "Operability Determination Process," Revision 0, and the applicable portions of the Updated Final Safety Analysis Report and Technical Specifications.

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds

a. Inspection Scope

The inspectors evaluated an operator work-around (OWA) described in the condition report listed below to identify any potential affects on the functionality of the emergency diesel generators or on the operators' response to initiating events:

- B2000-03952 1A DG [Diesel Generator] Lube Oil Temperature Affected by Cold Outside Temperatures.

The inspectors interviewed operating and engineering department personnel and reviewed the following procedures and documents:

- Byron/Braidwood Stations Updated Final Safety Analysis Report (UFSAR), Section 9.4.5.2, "Diesel Generator Facilities Ventilation System;"
- NUREG-0876, Safety Evaluation Report (SER) related to the operation of Byron Station, Units 1 and 2, Section 9.4.5, "Engineered Safety Features Ventilation and Cooling Systems;"
- Nuclear Station Procedure OP-AA-101-303, "Operator Work-Around Program," Revision 0;
- Byron Operating Procedure VD-5, "DG Room Ventilation System Operation," Revision 4;

- Onsite Review 97-003, "Diesel Generator Ventilation System Impact on Diesel Generator Operability," dated January 23, 1997; and
- Safety Evaluation TI-97-0008, "Safety Evaluation Supporting the Findings and Recommendations Made in Onsite Review 97-003," dated January 24, 1997.

The following condition reports were written as a result of inspector identified issues during this inspection:

- B2001-00907 Aggregate Review of OWAs Not in Accordance With Procedure,
- B2001-00912 Potential OWA for Diesel Generator Ventilation System, and
- B2001-01150 Operating the Motor Driven Feedwater Pumps in Manual May Be an OWA.

b. Findings

On December 25, 2000, the licensee modified the DG ventilation system for the 1A DG in response to a material condition problem with the outside air damper. The inspectors noted that the licensee has used this same modification during the winter months on the ventilation systems of other DGs for several years because the air dampers do not seal tightly and allow excessive leakage of cold air from outside into the DG rooms. The cold air leakage into the rooms affects DG operability because of minimum temperature requirements for safety related components in the rooms as well as lube oil system and jacket water system minimum temperature requirements. The modification involved taking the DG room ventilation fan control switch to pull-to-lock to prevent its operation (caution carding the control switch) and covering the ventilation outside air damper with prefabricated plastic covers. The inspectors noted that the activity was controlled by an operating procedure that also provided instructions to return the DG ventilation system to normal operation. In the event of an emergency start of the DG, these recovery actions involve entering the ventilation plenum with the DG running (the DG turbo charger shares a common plenum with the ventilation system), climbing to the outside air damper, cutting and removing tie-wraps that fasten the covers over the damper, and removing the covers. Operators must exercise caution when entering and exiting the plenum because a sudden pressure change can affect the turbo charger operation and result in shutdown of the DG. The licensee concluded that sufficient time exists for operators to restore the ventilation system before environmental conditions in the DG room would render it inoperable.

Because the UFSAR and SER state that the DG ventilation supply and exhaust fans start automatically on actuation of the associated DG, this action resulted in a change to the facility as described in the UFSAR. The inspectors reviewed the licensee's evaluation performed in accordance with 10 CFR Part 50.59 for this change and noted that the licensee's substitution of operator manual actions to recover the DG ventilation system in place of the automatic actions described in the current design basis could potentially introduce a new failure mechanism, or potentially increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the UFSAR and impact the operability of the DGs. As a

result, the inspectors were concerned that the licensee may have made a change to the facility requiring prior NRC approval without obtaining approval. This issue is considered an unresolved item (50-454/455-01-06-01(DRP)) pending further NRC review of the licensee's substitution of operator manual actions to recover the DG ventilation system in place of automatic system actuation.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors evaluated the improper installation of stainless steel flexible hoses on the Unit 1 and Unit 2 centrifugal charging pumps. The inspectors interviewed engineering and maintenance department personnel and reviewed the following safety related plant modification work requests (WR) and associated design change packages (DCP):

- WR 950079281-01 1A Centrifugal Charging Pump - Install Flexible Hoses to Lube Oil System Per DCP 9400433,
- WR 950079282-01 1B Centrifugal Charging Pump - Install Flexible Hoses to Lube Oil System Per DCP 9400433,
- WR 950079283-01 2A Centrifugal Charging Pump - Add Flexible Hoses to Lube Oil System Per DCP 9400434,
- WR 950079285-01 1A Centrifugal Charging Pump - Add Flexible Hoses to Lube Oil System Per DCP 9400434,
- DCP 9400433 Add Stainless Steel Flexible Hoses and Union Connections to the Lube Oil System of Pumps 1CV01PA/B, and
- DCP 9400434 Add Stainless Steel Flexible Hoses and Union Connections to the Lube Oil System of Pumps 2CV01PA/B.

The inspectors also reviewed the licensee's apparent cause evaluation performed for Condition Report B2001-00394, "Centrifugal Charging Pump Lube Oil Flexible Hoses" and Nuclear Station Work Procedure M-09, "Flexible Metal Hose Installation," Revision 2.

b. Findings

The inspectors identified a Green finding regarding the licensee's failure to correctly install stainless steel flexible hoses on the Unit 1 and Unit 2 centrifugal charging pumps. This finding was dispositioned as a Non-Cited Violation.

While observing post maintenance testing of the 2A centrifugal charging pump, the inspectors identified an oil leak from a fitting on one end of a flexible metal hose attached to the pump's gear box oil cooler. The oil leak appeared to be caused by stresses imposed on the fitting as a result of improper hose installation. In response to the inspectors' questions, the licensee inspected the identical hose installations on all four of the charging pumps and determined that all four hoses were not correctly installed. The hoses in question were installed as permanent modifications to the

pumps in 1996. The licensee wrote Condition Report B2001-00394 to document the issue, initiated an apparent cause evaluation, wrote engineering requests to replace the hoses, and performed a nonconformance evaluation to accept the condition of the hoses until they can be replaced.

In response to the inspectors' questions, the licensee inspected all of the flexible hoses that had been installed on all four of the charging pumps to determine the extent of condition. The licensee's initial assessment was that as many as twelve additional hoses may not be correctly installed in accordance with the vendor specifications. The licensee wrote Condition Report B2001-01172 to document its initial extent of condition assessment and wrote action requests for mechanical maintenance to verify incorrect hose installations by performing the original post-modification testing required by the design change packages.

The inspectors reviewed the associated work requests and design change packages for the hose installations and noted that, with a single exception, the design change package requirements for post-modification testing were not incorporated into the work instructions and, as a result, the testing was not appropriately performed.

Because several of the hoses were improperly installed and post-modification testing was not appropriately performed to identify the degraded conditions, the hoses were subject to premature failure. Therefore, the inspectors concluded that this issue had a credible impact on the ability of the centrifugal charging pumps to perform their safety function. The inspectors also concluded that this issue could credibly affect the operability, availability, reliability, or function of the emergency core cooling system, which is a mitigating system under the significance determination process. The inspectors determined that, because the hoses had not failed but were subject to premature failure, this issue was of very low safety significance (Green).

10 CFR Part 50, Appendix B, Criterion XI, "Test Control," requires, in part, that a test program be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. Test results shall be documented and evaluated to assure that test requirements have been satisfied. Contrary to the above, the licensee failed to identify and perform all testing requirements, and establish acceptance limits in the written work request instructions for installing flexible hoses on the Unit 1 and Unit 2 centrifugal charging pumps. This issue is a violation of 10 CFR Part 50, Appendix B, Criterion XI. In accordance with Section V1.A.1 of the NRC Enforcement Policy, this violation is being treated as a Non-Cited Violation (50-454/455-01-06-02(DRP)). This issue was entered into the licensee's corrective action program as Condition Reports B2001-00394 and B2001-01172.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors evaluated the licensee's post maintenance testing activities for maintenance conducted on the 1B auxiliary feedwater (AF) pump and the 2A essential service water (SX) pump. These activities included the following work requests:

- WR 990020244-01 Inspect Switchgear Cubicle 132X Compartment 4A,
- WR 990054790-01 2A SX Pump - Replace O-Ring Seal Between Oil Pump Adaptor and Bearing,
- WR 990085422-01 Replace Control Power Diodes CR13 and CR14,
- WR 990087457-01 Time Delay Relay Calibration - 1B AF Pump Relay K4,
- WR 990087748-01 Calibration of AF Pump 1B Suction Pressure Loop 1AF-055,
- WR 990087749-01 Time Delay Relay Calibration - 1B AF Pump Relay K3,
- WR 990087750-01 Time Delay Relay Calibration - 1B AF Pump Relay K2,
- WR 990112809-01 Replace Snubber With a Strut in Accordance With Design Change Package 9700230,
- WR 990143748-01 Replace Thermometer and Thermowell 1TI-AF125 and 1TEW-AF125,
- WR 990214170-01 Clean Inlet Side of Cubicle Cooler,
- WR 990217672-01 Repair Large Gap in Rubber Dodge Coupling to 1SX04P,
- WR 990254585-01 Inspect Auxiliary Feedwater Pump Gear Drive,
- WR 990203864-01 Generic Letter 89-13 Heat Exchanger Inspection of 2A SX Pump Oil Cooler, and
- WR 990203865-01 2A SX Pump - Clean SX Oil Cooler.

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. During these inspection activities, the inspectors interviewed operations, maintenance, and engineering department personnel and reviewed the completed post maintenance testing documentation.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

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:

- Byron Instrument Maintenance Surveillance Requirement Procedure 3.1.6-200, "92 Day Surveillance Calibration of Power Range Nuclear Instrumentation System," Revision 4;
- Unit 0 Byron Operating Surveillance Requirement Procedure (BOSR) 7.9.6-2, "Essential Service Water Makeup Pump 0B Monthly Operability Surveillance, Revision 7; and
- 2BOSR 7.8.1-1, "Unit 2 Essential Service Water System Valve Position Monthly Surveillance," Revision 4.

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 interviewed operations, maintenance, and engineering department personnel; reviewed the completed test documentation and applicable portions of the Updated Final Safety Analysis Report and the Technical Specifications; and observed the performance of all or portions of these surveillance testing activities.

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 the following condition reports:

- B2000-02968 1A Diesel Generator Sequence Test Failures,
- B2000-02982 Repeated Diesel Generator Safe Shutdown Sequencer Test,
- B2000-03190 Control Bank Insertion Limit Technical Specification Surveillance Discrepancy, and
- B2000-03481 Motor Operated Valve Limit Switch Left Outside Acceptance Criteria.

The following condition report was written as a result of inspector identified issues during this inspection:

- B2001-01191 Essential Service Water Valve Lineup Concerns.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification listed below to verify that the installation was consistent with design modification documents and that the modification did not adversely impact system operability or availability:

- DCP 9900391 Connect Interlock Circuitry From the Non-functioning 2SX173 Valve to the 2SX178 Valve.

The temporary modification changed the valve open permissive logic for the essential service water (SX) supply and return isolation valves to the 2B diesel driven auxiliary feedwater pump to permit SX flow to the pump only while the pump was in operation. The inspectors verified that configuration control of the modification was correct by comparing the field installation with design modification documents and confirmed that appropriate post-installation testing was accomplished. The inspectors reviewed the design modification documents and the 10 CFR 50.59 evaluation against the applicable portions of the Updated Final Safety Analysis Report. The inspectors also interviewed operating and engineering department personnel and reviewed Nuclear Station Procedure CC-AA-112, "Temporary Modifications," Revision 2.

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 the following condition reports:

- B2000-01065 Discrepancies with TMOD [Temporary Modification] 99-1-028, Reactor Coolant Pump 1B #2 Seal Leakage Monitoring; and
- B2000-02306 Extended Installation Paperwork for Security Diesel TMOD Not Completed on Time.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA5 Other

.1 (Closed) Unresolved Item (URI) 50-454/455-00-07-01(DRP): "Review the Results of the Licensee's Investigation and Resolution of the Missing Installation Records for 3-hour Rated Fire Seals." In May 2000, the licensee performed destructive testing of fire seals which were composed of materials including caulking, grout, and cera-fiber blankets that were used in the fire seals of concern. The manner in which the materials were installed for the test was consistent with a 1988 general installation detail issued by Sargent and

Lundy Company. The testing demonstrated that the fire seals were installed in a configuration that had a three-hour fire rating. This item is closed.

.2 Review of the Licensee's Strike Contingency Plan

a. Inspection Scope

On March 31, 2001, the local International Brotherhood of Electrical Workers (IBEW) union contract with ComEd expired. Because negotiations between the union and Exelon (ComEd) management indicated that an agreement was not likely prior to expiration of the contract, the NRC conducted an inspection to evaluate the licensee's strike contingency plans. This inspection, conducted prior to the expiration of the contract at Byron, verified that the licensee's plans met all of the requirements of the Technical Specifications and Federal Regulations in the event that a strike were to occur.

The inspectors evaluated the licensee's strike contingency plan and verified that all Technical Specifications and Code of Federal Regulation requirements were met. In particular, the inspectors verified that in the unlikely event of a strike, the licensee's strike contingency plan ensured that personnel were sufficient in number and qualifications to maintain the safe operation of the facility, including implementation of the site emergency plan. Specifically, the inspectors verified that in the areas of plant management, operations, maintenance, security, chemistry, radiation protection, surveillance and calibrations, and administrative controls, strike contingency personnel met all qualification requirements.

The inspectors made the following observations during the course this inspection:

- The licensee initially did not have a sufficient number of respirator qualified individuals and environs team qualified individuals to implement the site emergency plan.
- Many individuals had not worked as craftsmen in the field and had not received continuing training for many years. The licensee removed some personnel from the qualified list in the contingency plan. Personnel assigned to fill vacancies in the maintenance department did meet all of the licensee's qualification requirements.

The inspectors reviewed the licensee's safeguards contingency plan and verified that the equipment and personnel required by the plan were available and sufficient to ensure that reactor operation and facility security would be maintained.

The inspectors verified that support from local agencies if needed was adequate to ensure unimpeded access of strike contingency workers, medical care services, local fire department services, and support goods. Emergency communication equipment and the Emergency Notification System were verified to be available.

A discussion was held between the Byron Site Vice-President and the NRC Branch Chief responsible for Byron to ensure that in the unlikely event of a strike, remaining Byron Station personnel were prepared to continue the safe operation of the facility.

b. Findings

No findings of significance were identified.

4OA6 Meetings

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 March 29, 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. Adams, Systems Engineering Manager
B. Altman, Maintenance Manager
R. Blaine, Radiation Protection Manager
D. Combs, Site Security Administrator
R. Deppi, Nuclear Oversight Manager
D. Drawbaugh, Emergency Preparedness
S. Gackstetter, Shift Operations Superintendent
D. Hoots, Operations Manager
T. Horan, Operations Support Manager
M. Karney, Manager, Nuclear Security, Midwest Regional Operating Group
P. Knarr, Operations Training Supervisor
J. Kramer, Work Control Manager
S. Kuczynski, Station Manager
R. Lopriore, Site Vice President
P. Reister, Regulatory Assurance Manager
R. Roton, Regulatory Assurance
T. Schuster, Chemistry Manager
D. Spoerry, Training Manager
D. Wozniak, Engineering Manager

NRC
M. Jordan, Chief, Branch 3

ITEMS OPENED, CLOSED AND DISCUSSED

Opened

50-454-01-06-01 50-455-01-06-01	URI	Review of the licensee's change to the diesel generator ventilation system
50-454-01-06-02 50-455-01-06-02	NCV	Failure to accomplish testing requirements after installing stainless steel flexible hoses on the Unit 1 and Unit 2 centrifugal charging pumps

Closed

50-454-01-06-01 50-455-01-06-01	NCV	Failure to accomplish testing requirements after installing stainless steel flexible hoses on the Unit 1 and Unit 2 centrifugal charging pumps
50-454-00-07-01 50-455-00-07-01	URI	Review the results of the licensee's investigation and resolution of the missing installation records for 3-hour rated fire seals

Discussed

None

LIST OF BASELINE INSPECTIONS PERFORMED

The following inspectable-area procedures were used to perform inspections during the report period. Documented findings are contained in the body of the report.

Inspection Procedure		
Number	Title	Report Section
71111-04	Equipment Alignment	1R04
71111-05	Fire Protection	1R05
71111-12	Maintenance Rule Implementation	1R12
71111-13	Maintenance Risk Assessments and Emergent Work Control	1R13
71111-15	Operability Evaluations	1R15
71111-16	Operator Workarounds	1R16
71111-17	Permanent Plant Modifications	1R17
71111-19	Post Maintenance Testing	1R19
71111-22	Surveillance Testing	1R22
71111-23	Temporary Plant Modifications	1R23
92709	Other	4OA5
(none)	Meetings, including Exit	4OA6

LIST OF ACRONYMS USED

AC	Alternating Current
AF	Auxiliary Feedwater
BOP	Byron Operating Procedure
BOSR	Byron Operating Surveillance Requirement Procedure
CFR	Code of Federal Regulations
DCP	Design Change Package
DG	Diesel Generator
DRP	Division of Reactor Projects
IST	In-service Testing
LCOAR	Limiting Condition for Operation Action Requirement
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
OWA	Operator Work-Around
PARS	Publically Available Records
SER	Safety Evaluation Report
SX	Essential Service Water
TMOD	Temporary Modification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WR	Work Request