February 17, 2004

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

SUBJECT: BYRON STATION, UNITS 1 AND 2
NRC EVALUATIONS OF CHANGES, EXPERIMENTS, OR TESTS AND PERMANENT PLANT MODIFICATIONS INSPECTION
REPORT 05000454/2004003(DRS); 05000455/2004003(DRS)

Dear Mr. Crane:

On January 30, 2004, the Nuclear Regulatory Commission (NRC) completed a routine baseline inspection at your Byron Station, Units 1 and 2. The enclosed report documents the inspection findings, which were discussed on January 30, 2004, with Mr. S. Kuczynski 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. Specifically, this inspection focused on the baseline biennial inspections for evaluations of changes, tests, or experiments (10 CFR 50.59) and permanent plant modifications. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

No findings of significance were identified.

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

Sincerely,

/RA/

Julio F. Lara, Chief
Electrical Engineering Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 05000454/2004003(DRS);
05000455/2004003(DRS)

See Attached Distribution

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

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See Attached Distribution

*See Previous Concurrence
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Byron Station Plant Manager
Regulatory Assurance Manager - Byron
Chief Operating Officer
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Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
Manager Licensing - Braidwood and Byron
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REGION III

Docket Nos:	50-454; 50-455
License Nos:	NPF-37; NPF-66
Report No:	05000454/2004003(DRS);05000455/2004003(DRS)
Licensee:	Exelon Generation Company, LLC
Facility:	Byron Station, Units 1 and 2
Location:	4450 N. German Church Road Byron, IL 61010
Dates:	January 26 through January 30, 2004
Inspectors:	Zelig Falevits, Senior Reactor Inspector (Lead) Darrell L. Schrum, Reactor Inspector Gerard O'Dwyer, Reactor Inspector
Approved by:	Julio F. Lara, Chief Electrical Engineering Branch Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000454/2004003(DRS), 05000455/2004003(DRS); on 01/26/2004 - 01/30/2004; Byron Station, Units 1 and 2; Routine Baseline Inspection Report.

This report covers a five day period of announced baseline inspection on evaluations of changes, tests, or experiments and permanent plant modifications. The inspection was conducted by Region III inspectors. No findings of significance were identified.

A. Inspector-Identified and Self-Revealed Findings

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

No findings of significance were identified.

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

Summary of Plant Status

Units 1 and 2 were operated at or near full power throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R02 Evaluations of Changes, Tests, or Experiments (71111.02)

.1 Review of 10 CFR 50.59 Evaluations and Screenings for Changes, Tests, or Experiments

a. Inspection Scope

The inspectors reviewed ten evaluations performed pursuant to 10 CFR 50.59. The evaluations related to permanent plant modifications, set-point changes, procedure changes, conditions adverse to quality, and changes to the updated final safety analysis report. The inspectors reviewed the evaluations to verify that the evaluations were thorough and that prior NRC approval was obtained as appropriate. The inspectors also reviewed fifteen screenings where the licensee had determined that a 10 CFR 50.59 evaluation was not necessary. In regard to the changes reviewed where no 10 CFR 50.59 evaluation was performed, the inspectors verified that the changes did not meet the threshold to require a 10 CFR 50.59 evaluation. These evaluations and screenings were chosen based on risk significance of samples from the different cornerstones.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

.1 Review of Recent Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed eleven permanent plant modifications that were installed in the last two years. The modifications were chosen based upon their affecting systems that had high probabilistic risk analysis (PRA) significance in the licensee's Individual Plant Evaluation (IPE) or high maintenance rule safety significance. The inspectors reviewed the modifications to verify that the completed design changes were in accordance with the specified design requirements and the licensing bases and to confirm that the changes did not affect any systems' safety function. Design and post-modification testing aspects were reviewed to ensure the functionality of the modification, its associated system, and any support systems. The inspectors also reviewed the

modifications performed to verify the modification did not place the plant in an increased risk configuration.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

.1 Routine Review of Condition Reports

a. Inspection Scope

The inspectors reviewed a selected sample of condition reports associated with Byron Station permanent plant modifications and concerning 10 CFR 50.59 evaluations and screenings. The inspectors reviewed these issues to verify an appropriate threshold for identifying issues and to evaluate the effectiveness of corrective actions. In addition, condition reports written on issues identified during the inspection were reviewed to verify adequate problem identification and incorporation of the problem into the corrective action system. The specific corrective action documents that were sampled and reviewed by the team are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. S. Kuczynski and other members of licensee management at the conclusion of the inspection on January 30, 2004. The licensee acknowledged the findings presented. No proprietary information was identified.

.2 Interim Exit Meetings

No interim exits were conducted.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Exelon Nuclear, LLC
S. Kuczynski, Byron Site VP
D. Hoots, Byron Plant Manager
B. Grundmann, Byron Reg. Assurance Manager
D. Thompson, Byron RP
B. Adams, Byron Engineering Manager
S. Stimac, Byron Operations Manager
K. Hansing, Byron Nuclear Oversight Manager
D. Drawbaugh, Byron Reg. Assurance
E. Blondin, Byron Engineering
J. Gluck, Byron Procurement Engineering
V. Naschanski, Byron Engineering
E. Hernandez, Byron Maintenance
D. Spitzer, Byron Engineering
P. Adams, Byron Ops Training Manager

Nuclear Regulatory Commission
R. Skokowski, Senior Resident Inspector
P. Snyder, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Closed

None.

Discussed

None.

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document in this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

Calculations

BRW-99-0483/BYR99-0127; Analysis of Post Loss of Coolant Accident (LOCA) Hydrogen Concentration in Containment; dated May 30, 2000

BMW-96-398-E; Endurance Evaluation of Chemical and Volume Control (CVCS) Pumps; dated September 30, 1996

PSA-B-95-12; Byron and Braidwood CVCS Malfunction Mitigated by Operator Action in Modes 3, 4, and 5; dated April 7, 2000

Condition Reports (CRs) Initiated as a Result of Inspection

CR 197616; 50.59 Independent Review Form Question Marked Inaccurately; dated January 26, 2004

CR 198030; EC 338489 Document Discrepancy; dated January 28, 2004

CR 198031; RH Mod Test Procedures Not Closed Out in a Timely Manner; dated January 27, 2004

CR 198048; Concern Expressed on Content of QRT Population, September, November, December; dated January 28, 2004

CR 198057; Generic Statement Provided in Work Planning Instructions; dated January 28, 2004

CR 198117; EC 338489 Date Discrepancy on CC-AA-102, Attachment 10E; dated January 28, 2004

CR 198168; OAD Test Report Not Updated by Engineering Change; dated January 29, 2004

CR 00197706; NRC Inspection Question 007-0 Dilution During Cold Shutdown; dated January 26, 2004

CR 00198283; NRC Inspection Question 038-01; dated January 29, 2004

Condition Reports (CRs) Reviewed

CR 170454; NOS Identified Issues with EC 338488; dated August 8, 2003

CR 171578; 2003 INPO Evaluation - Engineering Performance Deficiencies; dated August 19, 2003

CR 13426; Electrical Load Changes Not Processed per NSP CC-AA-308; dated December 3, 2002

CR 138622; QRT Review of Engineering Changes; dated January 8, 2003

CR 149864; QRT Grade 3 on 50.59 Screening No. 6E-03-0002; dated March 19, 2003

CR 172959; Unnecessary Replacement Activities Identified in Work Order; dated August 25, 2003

CR 155795; 50.59 Screening 6D-03-0026 was Graded as Level 4 by QRT; dated April 25, 2003

CR 169661; Inadequate 50.59 Prepared for Revision 3 of BVP-800-30; dated July 30, 2003

A/R No. 00112338; Safety Injection Potential Not Communicated to Operations; dated June 18, 2002

A/R No. 00154626; Auxiliary Feed NRC Safety System Design Inspection (SSDI) Focus Area Self-Assessment (FASA) Design Inspection Discrepancy; dated April 18, 2003

A/R No. 00158510; ComEd Did Not Follow the Interface Agreement for Mod Work; dated May 13, 2003

A/R No. 00170454; Nuclear Oversight (NOS) Identified Issues With Engineering Change 338488; dated August 6, 2003

A/R No. 00192726; Weak Documentation Identified in Modification FASA; dated December 29, 2003

A/R No. 00176041; A Failure Mode Was Not Documented in a Design Change Package; dated September 16, 2003

CR 00104470; Centrifugal Charging Pump Potential Seal Concern During Postulated High Temperatures; dated April 19, 2002

CR B2001-0311; Questionable Auxiliary Feed Pump Operability Due to Low Temperatures; dated July 16, 2001

AR 00104368; Discrepancy Noted for Screening 6D-00-0716; dated April 18, 2002

AR 00183007; Oil Sample Lines May Not Be Supported Adequately; dated October 25, 2003

AR 00129529; PWST Dissolved Oxygen after Modification per EC79555; dated October 30, 2003

AR 00149051; Nitrogen Supplied to PWST is 6 ppm Oxygen; dated March 14, 2003

AR 00185458; New Modification Hampers Ability to Operate Valve; dated November 8, 2003

AR 00184944; Improper Installation of EC 340158 (SXCT Oil Sample Lines); dated November 5, 2003

Modifications (Engineering Changes) (ECs)

EC0000338489; Revise Control Switch (1RH611) to Maintained Open Contact; dated August 29, 2003

EC0000342202; Convert TCCP EC 336844 to Permanent Setpoint Band Change for Under Frequency Relay OSSL-SY077 to MCR Annunciator 0-35-F5; Revision 0

EC000079090; Add Isolation Fuses Between Safety Related and Non-Safety Related Loads for IP Panels; Revision 0

EC0000339842; Seal Flushing Fittings Alternate Materials Specification; dated November 20, 2002

EC0000339025; Evaluation for Garlock Gasket Material (Gylon) Material as an Acceptable Alternate; dated April 4, 2003

DCP 0000079261; Redesign Support 2SI106B01X to Allow Easier Removal of Floor Plug; dated September 19, 2001

DCP 9900267; Automatic Boron Dilution Protection System (BDPS) Replacement With Volume Control Tank Level Monitoring; dated February 5, 2002

EC 78963; Replace Valve with Smaller Vent Valve to Reduce Stress at Sockolet Weld; dated August 15, 2002

EC 344908; Modify Pipe Support 1CV05037X to Permit Inspection of Check Valve 1CV8323B During B1R12; dated September 28, 2003

EC 79315; Snubber Replacement from PSA Mechanical Snubbers to Lisega Hydraulic Snubbers for Four Snubbers; dated April 6, 2002

EC 340916; SAT 242-1 Oil Leaks at 4 Bolt Flapper Valve Flange Gasket Repair; dated March 24, 2003

Procedures

BOP RH-3; Fill and Vent of the RHR System; Revision 21

CC-AA-102; Design Input and Configuration Change Impact Screening; Revision 6

CC-AA-103-1003; Owner's Acceptance Review of External Configuration Change Packages; Revision 1

CC-AA-103-2001; Setpoint Change Control; Revision 0

CC-MW-103-1001; Configuration Change Control Guidance; Revision 1

CC-AA-104; Document Change Request; Revision 4

CC-AA-107; Configuration Change Acceptance Testing Criteria; Revision 3

CC-AA-209; Fire Protection Program Configuration Change Review; Revision 1

CC-AA-107-1001; Post-Modification Acceptance Testing; Revision 0

CC-AA-202-1001; Quality Review Team (QRT); Revision 1

LS-AA-1000; 50.59 Exelon Resource Manual; Revision 1

ER-AA-600-1015; FPIE PRA Model Update; Revision 4

LS-AA-125; Corrective Action Program (CAP) Procedure; Revision 6

BOP CV-17; Establishing and Securing Normal Letdown Flow; Revision 16

1BGP 100-5; Plant Shutdown and Cooldown; Revision 42

50.59 Evaluations

6H-02-0026; Revised Control Switch Operation of RHR Minflow Valves 1 (2) RH610/611; Revision 0

6G-03-0002; Revision to Emergency Procedures to provide for Manual Shutdown of VV (Byron and Braidwood) Following a Safety Injection Actuation; Revision 0

6H-02-0022; Remove Actuation Signal for PZR PORV from Master PZR Pressure Controller; Revision 0

6G-02-0008; Revision to Byron Administrative Procedure 1100-3A3, Pre-evaluated Plant Barrier Matrix; Revision 2

6G-03-0001; Revision of BEP/BwEP-0, -1, ES-1.2, ES-1.3, to Implement Changes to Spurious Valve Actuation Group Valve Reenergization; Revision 1

6G-03-0008; Updated Final Safety Analysis Report (UFSAR) Update Addressing the Revised Structural Component Criterion; Revision 1

6G-01-0019; Station Air Compressor Inlet Filter Relocation and Non-Essential Service Water Piping Changes; Revision 0

6G-03-0004; TRM Change 03-013, TRM 3.9.a, “Decay Time”; dated August 7, 2003

6G-02-0009; TRM Change 02-008; dated July 22, 2002

6G-03-0005; UFSAR Update Addressing NSAL 03-01/DRP 10-028; dated December 15, 2003

50.59 Screenings

6D-02-0070; Unit One Remote Shutdown Panel Quarterly Surveillance; Revision 0

6D-02-0104; Isolation Phase Bus Duct Temp High; Revision 0

6D-02-0178; 125 Vdc Bus 212 Load Shed When Cross-Tied to DC Bus 112; Revision 0

6D-03-0004; Loss of an Inst. Bus; Revision 0

6D-02-0154; Replace Obsolete Negative Phase Sequence Overcurrent Relay Model 125GC12A1A with new Model 125GC21A1A; Revision 0

6D-03-0045; Nuclear Instrument Malfunction and Operation with a Failed Instrument Channel; Revision 0

6D-02-0136; Filling and Venting the Essential Service Water System; Revision 0

6D-02-0198; Radwaste and Remote Shutdown Control Room Heating, Ventilation and Air Conditioning (HVAC) and Refrigeration Unit Operation, Control Room Temperature High; Revision 0

6E-02-0103; Eliminate Battery Room Exhaust Fans. 1/2VE02C and 1/2VE03C, High Differential Pressure Trips; Revision 0

6E-02-0121; Containment Floor Drain Pump Manual Operation; Revision 0

6E-03-0028; Evaluation of Foreign Material Intrusion into Byron Unit 2 Due to 2A CV Pump Sleeve Failure; Revision 0

6E-00-0118; For EC 78963 - Replace Valve with Smaller Vent Valve to Reduce Stress at Sockolet Weld; dated June 12, 2000

6E-01-0142; For EC 79315 - Snubber Replacement from PSA Mechanical Snubbers to LISEGA Hydraulic Snubbers for Four Snubbers; dated April 6, 2002

6D-02-0068; SX Pump Startup; dated April 25, 2002

6D-02-0072; Diesel Drive Aux Feed Pump “Overcrank” Alarm BARs; dated May 3, 2002

Miscellaneous Documents

DD 437514; Work Order for Setpoint Change of OSI-SY077; dated May 2, 2002

OE-1; Byron Station QRT Indicator; dated December 3, 2003

00481282; EM Install Modification per EC 338489; dated July 31, 2003

BB-0418; Exelon PRA URE ECNs 337450, 337451, 337452, and 337454; dated August 26, 2002

TR No. 02-705; Training Request - ECs 338488, 338489, 338614, and 338615; dated October 31, 2002

Memorandum; Request for Amendment to Technical Specifications Extension of Allowable Completion Times and Surveillance Requirement Change for Emergency Diesel Generators; dated January 20, 2000

Memorandum; Request for Technical Specification Change Revise the Applicability of Technical Specification 3.3.9, BDPS; dated June 19, 2000

Technical Evaluation 96-033; Compressed Asbestos Gasket Generic Guidelines; dated July 16, 1996

Technical Evaluation 97-317; CV Pump Mechanical Seal Kit (SI 700E13); dated January 29, 1998

Material Evaluation A-1998-0152-000; Mechanical Seal Parts for 1/2SX; dated October 27, 1998

Specification Number F/L 2739; 1CV17M and 2CV17M Flow Orifice; dated March 24, 1983

Drawing S-993; Containment Building Embedment Plans Elevation 416'-4" and Main Steam Isolation Valve (MSIV) Miscellaneous Details Elevation 401'-0"; dated February 23, 2000

Passport Evaluation 8280; Provide Quality Level 1 Procurement Requirements for 1/2SX04P Mechanical Seal Catalogue Identification 15594-1 and Document Seal Material Changes; dated November 1, 2000

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ANSI	American National Standards Institute
ASME	The American Society of Mechanical Engineers
BDPS	Boron Dilution Protection System
BOP	Balance of Plant
CFR	Code of Federal Regulations
CR	Condition Report
DCP	Design Change Package
DRS	Division of Reactor Safety
EC	Engineering Change
ECR	Engineering Change Request
FSAR	Final Safety Analysis Report
HVAC	Heating, Ventilation and Air Conditioning
INPO	Institute of Nuclear Power Operation
IP	Inspection Procedure
IPE	Individual Plant Evaluation
IR	Inspection Report
LOCA	Loss of Coolant Accident
MOV	Motor Operated Valve
MWROG	Mid-West Regional Operating Group
NOS	Nuclear Oversight
NRC	United States Nuclear Regulatory Commission
PRA	Probabilistic Risk Analysis
QRT	Quality Review Team
RHR	Residual Heat Removal
RWST	Refueling Water Storage Tank
SDP	Significance Determination Process
SE	Safety Evaluation
SER	Safety Evaluation Report
TRM	Technical Requirements Manual
TS	Technical Specification
USAR	Updated Safety Analysis Report
WO	Work Order