AmerGen
An Exelon Company

Clinton Power Station
R. R. 3, Box 228
Clinton, IL 61727

10 CFR 50.73
SRRS 5A.108

U-603852

April 9, 2008

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: Licensee Event Report 2008-001-00

Enclosed is Licensee Event Report (LER) No. 2008-001-00: Automatic Scram on High RPV Water Level Due to Reactor Recirc Pump Trip. This report is being submitted in accordance with the requirements of 10 CFR 50.73. A supplement will be issued to this report following completion of the root cause investigation for this event. The supplemental report is expected to be issued by May 2, 2008.

This document has no regulatory commitments.

Should you have any questions concerning this report, please contact Mr. T. D. Chalmers, Shift Operations Superintendent, at (217)-937-2203.

Respectfully,

F. A. Kearney
Site Vice President
Clinton Power Station

RSF/blf

Enclosures: Licensee Event Report 2008-001-00

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Clinton Power Station
Office of Nuclear Facility Safety – IEMA Division of Nuclear Safety

IE22
NRR

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Clinton Power Station	05000 461	1 OF 3

4. TITLE

Automatic Scram on High RPV Water Level Due to Reactor Recirc Pump Trip

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									None	05000
02	10	2008	2008	- 001 -	00	04	09	2008	FACILITY NAME: None	DOCKET NUMBER: 05000

9. OPERATING MODE

1

10. POWER LEVEL

95

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☐ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☒ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER (10 CFR 21)

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
T. D. Chalmers, Shift Operations Superintendent	(217) 937-2203

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☒ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☐ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR
05	02	2008

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On 2/10/08 the 'B' Reactor Recirculation (RR) Pump unexpectedly tripped from fast speed to off. Reactor Pressure Vessel (RPV) water level increased to the automatic scram setpoint. Operators placed the Reactor Mode Switch in Shutdown but the automatic scram on high RPV water level occurred approximately one second prior. The operator reported that reactor power was at zero percent and that all control rods were inserted, but had difficulty verifying four control rods due to anomalous indication on the Rod Control & Information System full core display. When RPV water level decreased below the low RPV water level setpoint, operators entered Emergency Operating Procedure (EOP) 1, RPV Level Control, and then transitioned to EOP 1A, ATWS RPV Level Control, in response to the four control rods with only one of two channels of control rod position indication providing indication of control rod position. During control rod position verification by other crewmembers, all control rods were verified to have fully inserted on the initial scram. The root cause evaluation for this event is in progress; a supplemental report will be submitted identifying the cause, corrective action, safety analysis, previous events and component failure data.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

Unit: 1 Event Date: 2/10/08 Event Time: 2207 Central Standard Time

Mode: 1 (Power Operation) Reactor Power: 95 percent

DESCRIPTION OF EVENT

On February 10, 2008 at 2206 hours, operators in the Main Control Room (MCR) received an alarm [ALM] indicating the 'B' Reactor Recirculation [AD] Pump [P] had unexpectedly tripped from fast speed to off. The 'A' Reactor Recirculation Pump remained in fast speed. The trip of 'B' Reactor Recirculation Pump caused Reactor Pressure Vessel (RPV) water level to increase, and the RPV water level high alarm annunciated. Operators responded to the event in accordance with procedures and training, and at about 2207 hours, with RPV water level at 48 inches and increasing, operators placed the Reactor Mode Switch [HS] into the Shutdown position. As the operator reached for the Reactor Mode Switch to place it into the Shutdown position, RPV water level increased to above Level 8 (52.0" Narrow Range) initiating an automatic reactor scram and the high RPV water level alarm annunciated. The operator reported to the Main Control Room Team that reactor power was at zero percent and that all control rods [ROD] were inserted, but had difficulty verifying the position of four control rods due to an anomalous indication on the Rod Control & Information System (RC&IS) [AA] full core display. After the event, investigation identified that the automatic scram occurred approximately one second prior to the operator placing the Reactor Mode Switch into the Shutdown position.

Immediately after the scram, as RPV water level decreased below the low Level 3 setpoint, operators entered Emergency Operating Procedure (EOP) 1, RPV Level Control, and then transitioned to EOP 1A, ATWS RPV Level Control, in response to the four control rods that showed an alternating position of "FF" and "Full-in." The "FF" indicates failure of a sensor on one of two channels of control rod position indication. Concurrent with the transition from EOP-1 to EOP-1A, other crew members determined all control rods were fully inserted based on all control rods indicating the green full-in indication on at least one channel of control rod position indication.

Operators inhibited the Automatic Depressurization System [SB] as directed by EOPs. At about 2209, operators initiated a manual reactor scram using Alternate Rod Insertion as directed by EOP-1A to provide additional assurance that all control rods were fully inserted. At approximately 2210, operators reset the logic for the RC&IS and further confirmed the status of all control rods as fully inserted. The Main Control Room team then transitioned from EOP-1A back to EOP-1. Operators established an operating RPV pressure band using Turbine Bypass Valves [V] and a RPV water level band using Feedwater in accordance with EOPs.

The plant was stabilized in Mode 3 (Hot Shutdown) using normal balance of plant systems and Turbine Bypass Valves for pressure control.

At about 2335, operators exited EOP-1.

As expected during the event, the Level 3 low RPV water level trip caused primary containment isolation valves [ISV] in Group 2 (Residual Heat Removal (RHR) [BO]), Group 3 (RHR), and Group 20 (miscellaneous systems) to receive signals to shut; operators verified that the valves properly responded to the Level 3 trip.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

Initial troubleshooting determined that excessive leakage current through a high level optical isolator card [OB] caused actuation of the non-safety portion of the Division 3 End of Cycle – Reactor Recirculation Pump Trip (EOC-RPT) trip circuit, resulting in a trip of the 'B' Reactor Recirculation Pump.

No other inoperable equipment or components directly affected this event.

This event is reportable under the provisions of 10 CFR 50.73(a)(2)(iv)(A).

This event report does not identify any safety system functional failures.

The root cause evaluation and corrective actions for this event are tracked under Issue Report 734254. A supplemental report will be submitted identifying the cause, the safety analysis, the corrective action, any previous occurrences, and any component failure data for this event.