



Entergy Nuclear Northeast
Indian Point Energy Center
295 Broadway, Suite 1
P.O. Box 249
Buchanan, NY 10511-0249
Tel 914 734 5340
Fax 914 734 5718

Fred Dacimo
Vice President, Operations

NL-03-087
May 20, 2003

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, D.C. 20555-0001

SUBJECT: Indian Point Nuclear Power Plant Unit 2
Docket No. 50-247
License No. DPR-26
Licensee Event Report # 2003-002-00
Plant in a Condition Prohibited by Technical Specification due to Unavailability of Boric Acid Storage For More Than 48 Hours

Dear Sir:

The attached Licensee Event Report (LER) 2003-002-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73. This event is of the type defined in 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the Technical Specifications. This condition has been recorded in Entergy's Corrective Action Program as Condition Report CR-IP2-2003-01121.

Entergy is making no new commitments in this LER.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Fred R. Dacimo", written over a horizontal line.

Fred R. Dacimo
Vice President, Operations
Indian Point Energy Center

IE22

cc: Mr. Hubert J. Miller
Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

Mr. Patrick D. Milano, Senior Project Manager
Project Directorate I
Division of Reactor Projects I/II
U.S. Nuclear Regulatory Commission
Mail Stop O-8-C2
Washington, DC 20555

INPO Record Center
700 Galleria Parkway
Atlanta, Georgia 30339-5957

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 2 Nuclear Power Plant
P. O. Box 38
Buchanan, NY 10511-0038

LICENSEE EVENT REPORT (LER)

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

Estimated burden per response to comply with this mandatory information 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 Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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.

1. FACILITY NAME

Indian Point Unit 2

2. DOCKET NUMBER

05000- 247

3. PAGE

1 OF 3

4. TITLE Plant in a Condition Prohibited by Technical Specification due to Unavailability of Boric Acid Storage For More Than 48 Hours

5. EVENT DATE

MO DAY YEAR
04 22 2001

6. LER NUMBER

YEAR SEQUENTIAL REV
NUMBER NO
2003 - 02 - 00

7. REPORT DATE

MO DAY YEAR
05 20 2003

8. OTHER FACILITIES INVOLVED

FACILITY NAME

DOCKET NUMBER

05000-

FACILITY NAME

DOCKET NUMBER

05000

9. OPERATING
MODE

1

10. POWER
LEVEL

100

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

20.2201(b)

20.2203(a)(3)(ii)

50.73(a)(2)(ii)(B)

50.73(a)(2)(ix)(A)

20.2201(d)

20.2203(a)(4)

50.73(a)(2)(iii)

50.73(a)(2)(x)

20.2203(a)(1)

50.36(c)(1)(i)(A)

50.73(a)(2)(iv)(A)

73.71(a)(4)

20.2203(a)(2)(i)

50.36(c)(1)(ii)(A)

50.73(a)(2)(v)(A)

73.71(a)(5)

20.2203(a)(2)(ii)

50.36(c)(2)

50.73(a)(2)(v)(B)

OTHER

20.2203(a)(2)(iii)

50.46(a)(3)(ii)

50.73(a)(2)(v)(C)

Specify in Abstract below or in

20.2203(a)(2)(iv)

50.73(a)(2)(i)(A)

50.73(a)(2)(v)(D)

NRC Form 366A

20.2203(a)(2)(v)

X

50.73(a)(2)(i)(B)

50.73(a)(2)(vii)

20.2203(a)(2)(vi)

50.73(a)(2)(i)(C)

50.73(a)(2)(viii)(A)

20.2203(a)(3)(i)

50.73(a)(2)(ii)(A)

50.73(a)(2)(viii)(B)

12. LICENSEE CONTACT FOR THIS LER

NAME

Michael Cheskis

TELEPHONE NUMBER (Include Area Code)

(914) 734-5317

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
A	CB	V	G257	N					

14. SUPPLEMENTAL REPORT EXPECTED

YES (If yes, complete EXPECTED SUBMISSION DATE)

X

NO

15. EXPECTED
SUBMISSION
DATE

MONTH

DAY

YEAR

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

On March 21, 2003, at 1600 hours, with steady state reactor power at 100%, System Engineering determined that the both trains of the boric acid storage system (BASS) had been inoperable for 102.3 hours from April 22 to April 26, 2001. Technical Specification (TS) 3.2.B.3 requires one flow path from the BASS to the reactor coolant system (RCS) and TS 3.2.C.2 allows this flow path to be inoperable for a period of up to 48 hours before going to hot shutdown. This placed the plant in a condition prohibited by TS for 54.3 hours. The event was identified on March 21, 2003 during an extent of condition review of an event where the inability to verify a boric acid flow path to the core occurred. A 2-inch manual Grinnell Saunders diaphragm valve had failed due to the incorrect (upside down) installation of the fingerplate in the bonnet assembly in March 2001 and prevented design flow from the 22 Boric Acid transfer pump to the blender. The event was the only time both flow paths were unavailable for more than 8 hours since the valve work. The apparent cause was human error. Corrective action included valve repair, visual inspection of 5 similar valves and upgrade of the maintenance procedure. There was no safety significance since the BASS is not required for any plant accident.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Indian Point Unit 2	05000-247	2003	- 02	- 00	2 OF 3

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

Note: The Energy Industry Identification System Codes are identified within the brackets {}.

DESCRIPTION OF EVENT

On March 21, 2003, at 1600 hours, with steady state reactor power at 100%, Indian Point Energy Center (IPEC) System Engineering determined that the both trains of the boric acid storage system (BASS) {CB} were inoperable and remained so for 102.3 hours from April 22 to April 26, 2001. Technical Specification (TS) 3.2.B.3 requires one flow path from the BASS to the reactor coolant system (RCS) {AB}. TS 3.2.C.2 allows this flow path to be inoperable for a period of up to 48 hours before going to hot shutdown so the plant was in a condition prohibited by technical specifications for 54.3 hours. Condition Report (CR) CR-IP2-2003-01681 was written in Entergy's Corrective Action Program.

The reportable event was discovered during an extent of condition review from a February 26, 2003 event documented in CR-IP2-2003-01121. The CR identified the inability to verify a boric acid flow path to the core when using the 22 Boric Acid transfer pump (BATP) {P} aligned to the blender. TS 3.2.C.2 was entered and the 21 BATP was aligned as immediate corrective action. Subsequent investigation revealed that 2-inch manual Grinnell Saunders diaphragm valve {V} 370 had failed due to the incorrect (upside down) installation of the fingerplate in the bonnet assembly. The valve opens and closes by respectively lifting and compressing a diaphragm against a wear in the valve body. The valve contains a finger plate which is situated above the diaphragm. The fingers match the curve of the diaphragm when the valve is in the open position and as a guide for the diaphragm compressor. When installed upside down, the fingers cut into the diaphragm when it is opened and obstruct movement. In this event, the diaphragm was torn in the middle by the fingers. The review found that Work Order 00-13327 in March 2001 was when the diaphragm was installed erroneously. Grinnell had revised its maintenance instruction manual to indicate the fingerplate should be installed with the dome side facing into the bonnet. During this event, Maintenance Procedure VDI-B-001A and the Work Order Step List had steps to verify fingerplate installation. The second verification also had requirements for a QA signature. These steps were not followed as required. The actual time of the failure was not identified since the typical boration evolution involves injection of several gallons of borated water and low flow operation could be masked under this condition since the failed valve would allow some flow to pass. For assessment, the actual flow rate was not quantified and the valve was assumed to have failed at the time of maintenance.

An extent of condition review was done. The review identified 468 Grinnell Saunders diaphragm valves (not all the valves utilize a fingerplate for valve stem operation). The plant systems that have these diaphragm valves were reviewed for critical functions. The boration flow path of Chemical Volume Control System (CVCS) {CB} was the most critical. Five additional Grinnell Saunders diaphragm valves in the CVCS were selected for verification of fingerplate installation which was completed visually. The valves were satisfactory.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Indian Point Unit 2	05000-247	2003	- 02	- 00	3 OF 3

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

CAUSE OF EVENT

The apparent cause of the event was human error in reassembling valve 370 following Preventive Maintenance.

CORRECTIVE ACTIONS

The following corrective actions have been performed under Entergy's Corrective Action Program to address the cause and prevent recurrence:

1. Valve 370 bonnet assembly was replaced with a new bonnet assembly, which includes a new diaphragm.
2. A satisfactory visual examination was completed on 5 selected Grinnell Saunders diaphragm valves to verify correct fingerplate installation.
3. Revised Maintenance Procedure VDI-B-001-A to include steps for Grinnell Saunders diaphragm valve bonnet replacement. This eliminated the need for Work Step List and reduces the possibility of a human error.

EVENT ANALYSIS

These conditions are reportable under 10 CFR 50.73(a)(2)(i)(B), any event or condition that was prohibited by the plant Technical Specifications. The plant configuration since March 21 of 2001 was reviewed to determine periods when the 21 boric acid transfer pump train was tagged out of service. The 102.3 hours from April 22 to April 26, 2001 was the only period greater than 8 hours. The plant was in a condition outside Technical Specifications after 48 hours into this outage. The condition is not otherwise reportable since CVCS is not relied upon to perform a safety function.

PAST SIMILAR EVENTS

In the past two years, Licensee Event Reports (LER) 01-04 identified a missed TS surveillance due to human error and LER-01-05 identified a failure to meet TS requirements for low temperature overprotection due to human error.

EVENT SAFETY SIGNIFICANCE

These conditions had no significant effect on the health and safety of the public. The CVCS had alternate means to provide borated water to the RCS from refueling water storage tank (RWST) {CP} {TK} and is not credited with any post accident function. The only function involving CVCS is the dilution event postulated during refueling, startup, and operation. In all cases, Operator action in response to plant signals is depended upon to terminate primary water dilution and subsequently reborate. The RWST remained available as a borated water source during the event.