

Indian Point 3  
Nuclear Power Plant  
P.O. Box 215  
Buchanan, New York 10511  
914-736-8000



April 15, 1996  
IPN-96-044

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

SUBJECT: Indian Point 3 Nuclear Power Plant  
Docket No. 50-286  
License No. DPR-64  
Licensee Event Report # 96-007-00  
**Automatic Actuation of 33 Auxiliary Boiler Feedwater Pump Motor  
By a Low-Low Steam Generator Level Signal Due to Operator  
Placement of the Pump Control Switch in Automatic**

Dear Sir:

The attached Licensee Event Report (LER) 96-007-00 is hereby submitted as required by 10 CFR 50.73. This event is of the type defined in 10 CFR 50.73 (a)(2)(iv).

The Authority is making no new commitments in this LER.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Robert J. Barrett'.

FOR  
Robert J. Barrett  
Plant Manager  
Indian Point 3 Nuclear Power Plant

Attachment

cc: See next page

220010

9604220058 960415  
PDR ADOCK 05000286  
S PDR

A handwritten signature in black ink, appearing to read 'J. E. 22'.

Docket No. 50-286  
IPN-96-044  
Page 2 of 2

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

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

U.S. Nuclear Regulatory Commission  
Resident Inspectors' Office  
Indian Point 3 Nuclear Power Plant

LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

|  |                               |                    |
|--|-------------------------------|--------------------|
| FACILITY NAME (1)<br>Indian Point Unit 3 | DOCKET NUMBER (2)<br>05000286 | PAGE (3)<br>1 of 4 |
|--|-------------------------------|--------------------|

TITLE (4) Automatic Actuation of the 33 Auxiliary Boiler Feedwater Pump Motor by a Low-Low Steam Generator Level Signal Due to an Operator Placing the Pump Control Switch in Automatic

| EVENT DATE (5) |     |      | LER NUMBER (6) |                      |                    | REPORT DATE (7) |     |      | OTHER FACILITIES INVOLVED (8) |               |
|----------------|-----|------|----------------|----------------------|--------------------|-----------------|-----|------|-------------------------------|---------------|
| MONTH          | DAY | YEAR | YEAR           | SEQUENTIAL<br>NUMBER | REVISION<br>NUMBER | MONTH           | DAY | YEAR | FACILITY NAME                 | DOCKET NUMBER |
| 03             | 16  | 96   | 96             | -- 007 --            | 00                 | 04              | 15  | 96   | FACILITY NAME                 | DOCKET NUMBER |

|                    |  |     |  |   |                  |   |  |
|--------------------|--|-----|--|---|------------------|---|--|
| OPERATING MODE (9) |  | N   |  | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) |                  |   |  |
|                    |  |     |  | 20.402(b)   | 20.405(c)        | <input checked="" type="checkbox"/> 50.73(a)(2)(iv) | 73.71(b)   |
| POWER LEVEL (10)   |  | 000 |  | 20.405(a)(1)(i)   | 50.36(c)(1)      | 50.73(a)(2)(v)                                      | 73.71(c)   |
|                    |  |     |  | 20.405(a)(1)(ii)  | 50.36(c)(2)      | 50.73(a)(2)(vii)                                    | OTHER  |
|                    |  |     |  | 20.405(a)(1)(iii)   | 50.73(a)(2)(i)   | 50.73(a)(2)(viii)(A)                                | (Specify in Abstract below and in Text, NRC Form 366A) |
|                    |  |     |  | 20.405(a)(1)(iv)  | 50.73(a)(2)(ii)  | 50.73(a)(2)(viii)(B)                                |  |
|                    |  |     |  | 20.405(a)(1)(v)   | 50.73(a)(2)(iii) | 50.73(a)(2)(x)                                      |  |

| LICENSEE CONTACT FOR THIS LER (12)                      |  |
|---|--|
| NAME<br>Charles Elwood, Operations Technical Specialist | TELEPHONE NUMBER (Include Area Code)<br>(914) 736-8349 |

| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) |        |           |              |                        |  |       |        |           |              |                        |
|--|--------|-----------|--------------|------------------------|--|-------|--------|-----------|--------------|------------------------|
| CAUSE  | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE<br>TO NPRDS |  | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE<br>TO NPRDS |
|  |        |           |              |                        |  |       |        |           |              |                        |
|  |        |           |              |                        |  |       |        |           |              |                        |

|   |                                     |    |  |                                     |       |     |      |
|---|-------------------------------------|----|--|-------------------------------------|-------|-----|------|
| SUPPLEMENTAL REPORT EXPECTED (14)                   |                                     |    |  | EXPECTED<br>SUBMISSION<br>DATE (15) | MONTH | DAY | YEAR |
| YES<br>(If yes, complete EXPECTED SUBMISSION DATE). | <input checked="" type="checkbox"/> | NO |  |                                     |       |     |      |

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

On March 16, 1996, with the plant in cold shutdown, a Low-Low Steam Generator Level signal started the 33 Auxiliary Boiler Feedwater Pump (ABFP) motor. The motor inadvertently started because a Reactor Operator positioned the pump control switch in off, which spring returns to the automatic position, after completing a motor bump for a maintenance work request. During maintenance activities for the 33 ABFP motor, the 31 and 32 steam generators were being drained for chemistry control and had reached their Low-Low level actuation setting. With a Low-Low steam generator level signal present and the pump motor control switch in automatic, the 33 ABFP motor started. There was no feedwater flow or pump operation because the pump was uncoupled from the motor for the planned maintenance. When control board alarms alerted the operator, the pump control switch was placed in the trip pullout position. The cause of the event was personnel error due to a failure to perform proper error detection practices and apply self-checking. Corrective actions include counseling the operator and issuing a shift order. This event had no effect on the health and safety of the public.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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| FACILITY NAME (1)   | DOCKET NUMBER (2) | LER NUMBER (6) |            |          | PAGE (3) |
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| Indian Point Unit 3 | 05000286          | YEAR           | SEQUENTIAL | REVISION | 2 OF 4   |
|                     |                   | 96             | --007--    | 00       |          |

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

DESCRIPTION OF THE EVENT

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

On March 16, 1996, at approximately 1343 hours with the plant in cold shutdown (reactor power at 20 cps, reactor coolant temperature at approximately 150 degrees F, reactor coolant pressure at approximately 20 psig, and pressurizer level at approximately 20 percent), a Low-Low Steam Generator (SG) Level signal {JE} initiated the operation of the 33 Auxiliary Boiler Feedwater Pump {P} (ABFP) motor {MO} of the Auxiliary Boiler Feedwater System {BA}. The motor inadvertently started because a Reactor Operator (RO) returned the pump control switch {33} to off, which spring returns to the automatic position, after completing a motor bump with a Low-Low SG level signal present. Upon realizing that the ABFP motor automatically started, the RO placed the control switch in trip pullout. At approximately 1737 hours, a four-hour non-emergency notification (log No. 30120) reported an automatic Engineered Safety Features (ESF) actuation.

Maintenance was replacing the ABFP motor with a new motor under a maintenance work request that contained a step to bump the motor to verify proper rotation. The motor was uncoupled from the pump and the bump was to be coordinated with operations. Operations authorized a temporary lift for the Protective Tagging Order (PTO) against the 33 ABFP. The temporary lift showed the required and tagout position of the pump's control switch to be trip pullout. The procedure used for the motor bump was the maintenance work request step text. Neither the maintenance work request nor the temporary lift of the PTO contained cautions on the potential for automatic start. Neither the ABFP system operating procedure (SOP) nor the SOP for electric motor operation were referenced to be used for this step. The SOP contains a note about ABFP restart if the control switch is placed in auto and an auto start signal exists.

Prior to the motor bump activities, the 31 and 32 SGs were being drained for chemistry control. At the time of the motor bump, the 31 and 32 SGs had been drained to less than their Low-Low water level setting resulting in the generation of a Low-Low SG level signal. The SOP for SG draining contains a caution that SG draining to less than the Low-Low level setting will initiate the motor driven ABFPs auto start signal. Two out of three Low-Low SG water levels in any SG will initiate a start of the motor-driven ABFP. The control board annunciators indicated the condition. Each motor driven ABFP supplies two SGs (31 ABFP feeds SG 31 and 32, and 33 ABFP feeds SG 33 and 34).

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The RO in the control room was in phone contact with a Nuclear Plant Operator (NPO) stationed locally in the ABFP room observing the motor. Upon notification from the NPO that personnel were cleared from the motor and the motor could be started, the RO positioned the control switch to start the motor. After completing the bump the RO placed the ABFP control switch in the off position rather than trip pullout, which spring returns to the automatic position. Because there was a Low-Low SG level signal and the control switch was in automatic, the motor started. The pump motor start on Low-Low SG level was not part of the planned maintenance activities.

There was no feedwater flow or pump operation because the pump was uncoupled from the motor for the planned maintenance. The RO realized the motor had automatically started when the control board ABFP and 480 volt Safeguard Undervoltage alarm annunciated and the pump control switch red light was observed to be illuminated. In addition, the NPO who was in phone contact with the RO, upon hearing the motor restart after the bump, asked the RO to verify that the motor control switch was in the trip pullout position. Upon realizing that the ABFP motor automatically started the Control Room Supervisor (CRS) directed the RO to place the control switch in trip pullout. The RO repositioned the ABFP control switch to the trip pullout position. The NPO verbally verified with the RO that the ABFP motor had stopped.

CAUSE OF EVENT

The cause of the event was personnel error due to a failure of the Reactor Operator to perform proper error detection practices. The RO instinctively placed the control switch in automatic without applying self-checking. The RO was aware of the condition of the steam generators and what actions were to be performed, but was not cautioned about the Low-Low SG level signal and the potential for automatic start. The CRS failed to discuss the evolution with the control room operators and the expected results.

CORRECTIVE ACTIONS

The following corrective actions have been performed to address the causes of the event:

- The RO was counseled on attention to detail and use of self-checking by applying the STAR process (Stop, Think, Act, Review).

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

- A shift order was issued to emphasize the need to perform a brief before conducting activities with a potential to cause an inadvertent actuation of plant equipment.

ANALYSIS OF EVENT

This event is reportable under 10 CFR 50 (a) (2) (iv). The licensee shall report any automatic actuation of an engineered safety feature (ESF). The reduction of the steam generator water level in the steam generators for chemistry control resulted in a valid Low-Low SG level signal.

Maintenance activities on the ABFP motor required a motor bump. The RO recognized the potential for automatic actuation because of the existing Low Low SG signal. However, the potential for automatic actuation was not explicitly stated in the maintenance work request nor were the operators briefed on the potential prior to the start of work. Therefore, the unexpected automatic actuation of the ABFP motor by the valid Low-Low SG level signal that was not part of a preplanned activity is reportable.

A review of Licensee Event Reports (LERs) for the past three years for similar events identified ESF actuations were reported in LERs 96-003, 96-002, 95-009, 95-004.

SAFETY SIGNIFICANCE

This event had no effect on the health and safety of the public. This event identifies the automatic actuation of an ABFP motor while the plant was in cold shutdown. In cold shutdown sufficient decay heat removal capability is provided by a residual heat removal loop. The Low-Low SG water level setting provides protection against a loss of heat sink and was an expected actuation for preplanned activities. At the time of the event, the steam generators were not needed for core decay heat removal because the Residual Heat Removal (RHR) System was in service. The inadvertent actuation of the ABFP motor had no effect on the steam generators because the motor was uncoupled from the pump.