

Indian Point 3  
Nuclear Power Plant  
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John H. Garrity  
Resident Manager

November 6, 1993  
IPN-93-135

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop PI-137  
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant  
Docket No. 50-286  
Licensee Event Report # 93-040-00  
"Inadequate Surveillance Test of Control Rod  
Movement Placed the Plant in a Condition  
Prohibited by Technical Specifications due to  
Personnel Error"

Dear Sir:

The attached Licensee Event Report (LER) 93-040-00 is hereby submitted in accordance with the requirements of 10CFR50.73. This event is of the type defined in the requirements pursuant to 10CFR50.73(a)(2)(i)(B). Also attached are the commitments made by the Authority in this LER.

Very truly yours,

  
John H. Garrity  
Resident Manager  
Indian Point 3 Nuclear Power Plant

JHG/vjm

cc: See Next Page

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PDR ADDCK 05000286  
S PDR

*JHG*

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Mr. Thomas T. Martin  
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U.S. NRC Resident Inspectors' Office  
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Attachment  
List of Commitments

Number	Commitment	Due Date
IPN-93-135-01	Technical Services Procedure TSP-042, "Surveillance and Engineering Acceptance Test Preparation and Review" will be revised to add two items to the test procedure review checklist. One will require that the acceptance criteria reflect the specific requirements of the technical specifications. The second will require confirmation that the precaution and limitation (P&L) are consistent with the acceptance criteria.	December 7, 1993

**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.

<b>FACILITY NAME (1)</b> Indian Point Unit 3	<b>DOCKET NUMBER (2)</b> 05000286	<b>PAGE (3)</b> 1 OF 6
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**TITLE (4)** Inadequate Surveillance Test of Control Rod Movement Placed the Plant in a Condition Prohibited by Technical Specifications Due to Personnel Error

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	07	93	93	-- 040 --	00	11	06	93	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

<b>OPERATING MODE (9)</b> N	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>									
<b>POWER LEVEL (10)</b> 000	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)						
	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)	<input checked="" type="checkbox"/> 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)**

<b>NAME</b> Michael Cochrane, Reactor Engineer	<b>TELEPHONE NUMBER (Include Area Code)</b> (914) 736-8344
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**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>				<b>EXPECTED SUBMISSION DATE (15)</b>		
<b>YES</b> (If yes, complete EXPECTED SUBMISSION DATE).	X	<b>NO</b>		<b>MONTH</b>	<b>DAY</b>	<b>YEAR</b>

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

On October 7, 1993, at approximately 1430 hours, with the reactor at cold shutdown, Indian Point 3 reactor engineering personnel discovered that Control Bank D was not moved as required by item 2 of Indian Point Unit 3 (IP3) Technical Specification 4.1.B, Table 4.1-3, from June 1990 to February 1993. The technical specification requirement was added June 5, 1990 but the implementing surveillance test procedure contained a precaution prohibiting testing of the controlling bank of control rods. All control rods moved as required during plant shutdown in February 1993. The cause of the event was personnel error resulting from inattention to detail. Corrective action to revise the procedure has been completed. Corrective action has been scheduled to revise the procedure used for preparation and review of surveillance procedures so that the circumstances of this LER would be considered as well as to certify that tests verify equipment operability.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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

DESCRIPTION OF THE EVENT

On October 7, 1993, at approximately 1430 hours, with the reactor at cold shutdown, Indian Point 3 (IP3) reactor engineering personnel discovered that item 2 of Indian Point Unit 3 (IP3) Technical Specification 4.1.B Table 4.1-3 had not been fully met since it was added on June 5, 1990. Except during reactor startup and shutdown, Control Bank D was not moved the 10 step minimum required by the Technical Specification due to a precaution in the control rod exercise surveillance test prohibiting testing of the controlling bank of control rods. Significant Occurrence Report SOR 93-606 was issued at 1530 hours by Technical Services. No immediate corrective action was required because the plant was shut down.

The event was discovered on October 7, 1993 by personnel in the IP3 reactor engineering group who were revising Revision 2 to plant surveillance test procedure 3PT-M74 "Full Length Control Rods' Movement Exercise." While verifying the procedure's precaution and limitation (P&L) steps with IP3 Technical Specifications, IP3 reactor engineering noted that P&L step 2.2 prohibits the licensed reactor operator performing the test procedure from exercising the controlling bank, Control Bank D, when the reactor is at power. P&L step 2.2 improperly stated "if any bank is not fully withdrawn (230 steps) or that bank is being used for control, DO NOT perform its appropriate step and note [this in] the comments of Section 4.0." The IP3 control rod system is divided into eight groups called banks. Four are shutdown banks (i.e., Shutdown Banks A, B, C and D) and four are control banks (i.e., Control Banks A, B, C, and D). Since Control Bank D is the last bank of control rods withdrawn from the reactor core, it is the controlling bank when the reactor is operating at power. IP3 reactor engineering, based on a review of past completed test procedures and discussion with several licensed reactor operators, confirmed that the technical specification was not fully met. SOR 93-606 was issued at that time.

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On June 5, 1990, Technical Specification Amendment 99, entitled "Control Rod Partial Movement Testing", was issued. It revised item 2 in Technical Specification 4.1, Table 4.1-3, from a biweekly test frequency requiring partial movement of control rods (there was no minimum distance) to an equipment test requiring "movement of at least 10 steps in any one direction of all control rods" with a frequency of "every 31 days during reactor critical operations."

To implement amendment 99, the Performance and Reliability group revised the control rod exercise test procedure. Investigation by IP3 reactor engineering personnel revealed that the biweekly test procedure, 3PT-BW01 Revision 10, was superseded by a monthly test procedure, 3PT-M74 Revision 0, to meet the new technical specification requirements. P&L 2.2 of procedure 3PT-M74 was derived from procedural steps in test procedure 3PT-BW01 Revision 10 by the person who performed the procedure revision. The Performance and Reliability group did not identify the conflict of P&L 2.2 in test procedure 3PT-M74 Revision 0 with the requirements of amendment 99 to the technical specification during the revision and revision review process. As part of the investigation, IP3 reactor engineering personnel reviewed the Technical Specification Amendment 99 submittal package. There was no indication that movement of the control rods less than the 10 step minimum would be sufficient to satisfy the intent of the revised Technical Specification.

The IP3 reactor engineering review identified an opportunity to correct the deficiency. Revision 2 to surveillance procedure 3PT-M74 was issued July 21, 1992 by the Performance and Reliability group so that the operability and acceptance criteria section reflected the 10 step requirement of the technical specification. At that time, no evaluation was performed of the effects of the P&L on the procedure even though the revision followed a biennial review and the revision to the operability section resulted from a Quality Assurance recommendation that the operability section reflect the technical specification. The conflict with P&L 2.2 of procedure 3PT-M74 was not identified and corrected during the review and revision.

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CAUSE OF THE EVENT

The cause of the event is personnel error, inattention to detail. The personnel responsible for preparing and reviewing surveillance procedure 3PT-M74 failed to include the requirement of Technical Specification 4.1.B, Table 4.1-3, item 2 even though the procedure revision was intended to incorporate the technical specification amendment which added this requirement. A contributing cause was personnel error, misjudgment. This error was repeated when revising the surveillance procedure operability section in July 1992 to include the requirement to move all control rods at least 10 steps. This revision was made as part of a biennial review but did not recognize the conflict.

CORRECTIVE ACTION

The following corrective actions have been or will be performed in order to prevent recurrence of this event:

- Test procedure 3PT-M74 was reviewed by the site reactor engineering group to verify compliance with the Technical Specifications and to address Generic Letter 93-04. Revision 3 to the test procedure was completed and issued on October 27, 1993.
- Technical Services Procedure TSP-042, "Surveillance and Engineering Acceptance Test Preparation and Review" will be revised to add two items to the test procedure review checklist. One will require that the acceptance criteria reflect the specific requirements of the technical specifications. The second will require confirmation that the P&L are consistent with the acceptance criteria. This revision is scheduled for December 7, 1993.
- The Authority will certify, prior to startup from the current outage, that tests are current and results of each test properly demonstrate equipment operability. (Reference commitment Number 1 in NYPA letter IPN-93-099 dated August 27, 1993).

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- Plant Administrative procedure AP-19, "Surveillance Test Program" was revised on August 17, 1993 in response to earlier, similar LERs to enhance surveillance test performance and review practices and engender a questioning attitude regarding procedure contradictions. Specifically, the revision does the following:
  1. Requires test procedure review by the first line supervisor immediately following test completion;
  2. Precludes Temporary Procedure Changes where a change of intent to the procedure results;
  3. The use of "Not Applicable" (N/A) in a surveillance test requires an explanation in the comments section; and,
  4. Requires quality followup reviews to ensure that the procedure is performed in its entirety.

ANALYSIS OF THE EVENT

This event is reportable under 10 CFR 50.73(a)(2)(i)(B). The licensee shall report any operation or condition prohibited by the plant's technical specifications. Technical Specification Section 4.1.B, Table 4.1-3, item 2 requires that all control rods be exercised by movement of at least 10 steps every 31 days during reactor critical operations. LCO 3.10.7.2 states "Not more than one inoperable control rod shall be allowed anytime the reactor is critical... Otherwise, the plant shall be brought to the hot shutdown condition." Control rod bank 'D' was inoperable when the time limit of the surveillance requirement, including extensions, was exceeded. The required LCO action was not performed.

Similar events were recently reported where procedures or activities did not properly consider technical specification requirements. These were reported in LER 93-034, LER 93-028, LER 93-024, LER 93-023, LER 93-019, and LER 93-001.

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SAFETY SIGNIFICANCE

This event did not affect the health and safety of the public. The purpose of the surveillance requirement is to verify that control rods are operable because they are free to move. P&L 2.3 of test procedure 3PT-M74 requires "verifying movement of CONTROL BANK 'D' prior to moving either SHUTDOWN BANK 'B' or CONTROL BANK 'B' to ensure the common movable gripper fuse is not blown." To meet this P&L, procedure 3PT-M74 steps 3.4 (for Shutdown Bank B) and 3.8 (for Control Bank B) require "adequate movement of CONTROL BANK 'D' as indicated by the rod position indicators for CONTROL BANK 'D'." To implement P&L 2.3 requires moving Control Bank D approximately 4-5 steps monthly. This movement is sufficient to show that Control Bank D is free to move. Prior to Technical Specification Amendment 99, any biweekly movement of control rods verified by the Individual Rod Position Indicator System satisfied the technical specification. The monthly frequency requirement of Amendment 99 was based on the increase to a 10 step movement. This is more conservative than the monthly frequency as revised in NUREG 1431 "Standard Technical Specifications for Westinghouse Plants" which considers the 10 step movement every quarter to be sufficient to demonstrate operability. Since Control Bank 'D' was moved approximately half the 10 step distance three times more often than required by NUREG 1431, movement was sufficient to demonstrate operability. This conclusion is supported by the fact that Control Bank D is moved at least 30 steps as part of power range nuclear instrumentation system calibration and that IP3 has not experienced an inability of control rods to move freely.

The extent of condition is being bounded by certification that tests are current and that the results of each test properly demonstrate equipment operability. During the certification process, if it is determined that the IP3 Technical Specification requirements were not met, then that test will be changed and reissued for performance so that all the plant technical specifications will be shown to be fully met. A Technical Specification matrix is being formed to ensure that all surveillance test operability criteria meet IP3 Technical Specifications.