



Entergy Nuclear Northeast
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249
Tel 914 734 6700

Fred Dacimo
Site Vice President
Administration

December 5, 2005
Indian Point Unit No. 3
Docket No. 50-286
NL-05-130

Document Control Desk
U.S. Nuclear Regulatory Commission
Mail Stop O-P1-17
Washington, DC 20555-0001

Subject: Licensee Event Report # 2005-005-00, "Technical Specification Prohibited Condition Due to Mode Change without Performing Required Actions with the 32 Containment Fan Cooler Unit Inoperable."

Dear Sir:

The attached Licensee Event Report (LER) 2005-005-00 is the follow-up written report submitted in accordance with 10 CFR 50.73. This event is of the type defined in 10 CFR 50.73(a)(2)(i)(B) for an event recorded in the Entergy corrective action process as Condition Report CR-IP3-2005-04740.

There are no commitments contained in this letter. Should you or your staff have any questions regarding this matter, please contact Mr. Patric W. Conroy, Manager, Licensing, Indian Point Energy Center at (914) 734-6668.

Sincerely,

A handwritten signature in black ink, appearing to read "Fred R. Dacimo".

Fred R. Dacimo
Site Vice President
Indian Point Energy Center

FE22

Attachment: LER-2005-005-00

cc:

Mr. Samuel J. Collins
Regional Administrator – Region I
U.S. Nuclear Regulatory Commission

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
Resident Inspector Indian Point Unit 3

Mr. Paul Eddy
State of New York Public Service Commission

INPO Record Center

LICENSEE EVENT REPORT (LER)

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.

1. FACILITY NAME

INDIAN POINT 3

2. DOCKET NUMBER

05000-286

3. PAGE

1 OF 6

4. TITLE Technical Specification Prohibited Condition Due to Mode Change without Performing Required Actions with the 32 Containment Fan Cooler Unit Inoperable

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
10	04	2005	2005 -	005 -	00	12	05	05	FACILITY NAME	DOCKET NUMBER
										05000
										05000

9. OPERATING MODE

4

10. POWER LEVEL

0%

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

- | | | | |
|---|---|---|---|
| <input type="checkbox"/> 20.2201(b) | <input type="checkbox"/> 20.2203(a)(3)(i) | <input type="checkbox"/> 50.73(a)(2)(i)(C) | <input type="checkbox"/> 50.73(a)(2)(vii) |
| <input type="checkbox"/> 20.2201(d) | <input type="checkbox"/> 20.2203(a)(3)(ii) | <input type="checkbox"/> 50.73(a)(2)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(viii)(A) |
| <input type="checkbox"/> 20.2203(a)(1) | <input type="checkbox"/> 20.2203(a)(4) | <input type="checkbox"/> 50.73(a)(2)(ii)(B) | <input type="checkbox"/> 50.73(a)(2)(viii)(B) |
| <input type="checkbox"/> 20.2203(a)(2)(i) | <input type="checkbox"/> 50.36(c)(1)(i)(A) | <input type="checkbox"/> 50.73(a)(2)(iii) | <input type="checkbox"/> 50.73(a)(2)(ix)(A) |
| <input type="checkbox"/> 20.2203(a)(2)(ii) | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(iv)(A) | <input type="checkbox"/> 50.73(a)(2)(x) |
| <input type="checkbox"/> 20.2203(a)(2)(iii) | <input type="checkbox"/> 50.36(c)(2) | <input type="checkbox"/> 50.73(a)(2)(v)(A) | <input type="checkbox"/> 73.71(a)(4) |
| <input type="checkbox"/> 20.2203(a)(2)(iv) | <input type="checkbox"/> 50.46(a)(3)(ii) | <input type="checkbox"/> 50.73(a)(2)(v)(B) | <input type="checkbox"/> 73.71(a)(5) |
| <input type="checkbox"/> 20.2203(a)(2)(v) | <input type="checkbox"/> 50.73(a)(2)(i)(A) | <input type="checkbox"/> 50.73(a)(2)(v)(C) | <input type="checkbox"/> OTHER |
| <input type="checkbox"/> 20.2203(a)(2)(vi) | <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B) | <input type="checkbox"/> 50.73(a)(2)(v)(D) | |

Specify in Abstract below or
in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME

Joan Etzweiler, Operations Coordinator

TELEPHONE NUMBER (Include Area Code)

(914) 736-8207

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

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

15. EXPECTED SUBMISSION DATE

MONTH DAY YEAR

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

On October 5, 2005, Operations discovered the 32 Containment Fan Cooler Unit (FCU) supply breaker in the test position and it was declared inoperable. Technical Specification (TS) 3.6.6 requires three FCU trains to be operable in Modes 1 through 4. On October 4, 2005, during startup from a forced outage, the plant entered Mode 4, with the 32 FCU inoperable violating the TS. The cause of the TS violation was failure to perform the required actions of TS 3.0.4. prior to changing Modes with an inoperable 32 FCU. The failure to identify the inoperable FCU was due to ineffective use of a systematic and rigorous problem resolution process. The inoperable 32 FCU was caused by an improper FCU breaker installation due to human error. Significant corrective actions included, breaker inspection and re-installation, brief personnel on the event and advise of management's expectation of using a rigorous, systematic process to resolve problems, coaching Operations and Outage & Work Control personnel on the need for rigor in problem resolution and operability evaluations, providing focused training of operators for verifying breaker position, including event in operator requalification training and engineering training reinforcing the need to examine evidence questioning operability, revising applicable procedures for verifying proper breaker rack-in, requiring confirmatory observations of major equipment starts, and revising the startup procedure to require verification that Operability Evaluations are performed prior to mode changes. The event had no effect on public health and safety.

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Indian Point Unit 3	05000-286				2 OF 6

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

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

DESCRIPTION OF EVENT

On October 5, 2005, during startup from a forced outage at approximately 11% reactor power, Operations discovered at approximately 23:50 hours, the 32 Containment Fan Cooler Unit (FCU) {BK} 480 Volt AC electrical supply {ED} breaker {BKR} in the test position and not in the fully connected position. With the FCU breaker in the test position, it allows for the breaker to be closed but not connected. In this test position, the FCU breaker gives the indication in the control room (CR) {NA} that the fan is running. The potential of possible inadequate FCU ventilation flow was discovered during a routine system engineering (SE) review of plant computer data where the monitored temperature difference between the service water (SW) {BI} inlet and outlet for the 32 FCU was not as expected. SE first noticed the condition on September 28, 2005, after the 32 FCU was returned to service at 1440 hours, from scheduled maintenance. The SE believed the condition to be in accordance with the FCU System Operating Procedure which only requires four of five FCUs to be running with the remaining FCU operability met based on auto start capability. On September 29, 2005, reactor power was reduced due to a dropped control rod and on October 1, the plant shut down for a forced outage and entered Mode 5 on October 2, at 07:32 hours. On October 3, 2005, SE checked the condition of the 32 FCU and notified the Field Support Supervisor (FSS) of the continued low SW exit temperature and questioned this condition. The temperature condition was explained as reasonable consistent with plant conditions (plant shutdown and in containment purge with purge make-up close to the FCU intake). On October 5, 2005, the SE brought the continuing low SW temperature condition to the attention of the FSS and the Shift Manager (SM) noting the condition without purge in operation. The SM discussed the condition with the Operations Manager (OM) and concluded the 32 FCU was running based on the proper FCU CR switch position, the CR 32 FCU red running light being illuminated and that the FCU LOW FLOW alarm was clear in the CR. Operations management decided a containment entry was not needed to verify operation of the 32 FCU since CR indications showed the FCU was running. After review of plant drawings it was thought a local indicator was associated with a temperature element (TE) for the SW. An operator was dispatched to check the FCU SW outlet pipe TE located in Primary Auxiliary Building {NF}, but no local indicator was found. The use of a pyrometer to check the temperature was discussed but not directed by the SM. Operations decided to verify the operation of the 32 FCU at the next containment entry and check the calibration of the TE. At the direction of Operations the SE initiated condition report CR-IP3-2005-04740 at 1705 hours, and a work order (WO) to check the calibration of the SW TE element that fed the computer. Verification of the FCU SW temperature was not pursued further and at 1733 hours, the SM documented his operability evaluation (OE) as operable without verifying the FCU SW exit temperature. The SM and SE listed the 32 FCU as a concern on shift turnover at 1800 hours, but the SM considered the FCU operable. SE believed operations was performing a local check of FCU SW temperature.

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On October 5, Engineering reviewed the condition report for the 32 FCU and contacted the ventilation SE to fully understand the status of the condition, after which a check was initiated of all five FCU SW exit temperatures using a pyrometer. All five FCUs except the 32 FCU indicated a temperature difference between FCU SW inlet and outlet temperature. The condition indicated the FCU was not transferring heat and therefore not running. On October 5, 2005, at approximately 2200 hours, Engineering notified the SM of the FCU SW temperature finding. The SM directed a containment {NH} entry to verify that the 32 FCU was running. A containment entry was made at approximately 23:42 hours, and it was determined the fan was not running. Upon further investigation the 32 FCU 480 Volt supply breaker was discovered to be racked past the test connection but not to the fully racked in (connected) position. The condition of the 32 FCU caused it to be inoperable. Technical Specification (TS) 3.6.6 requires in part three FCU trains to be operable in Modes 1 through 4. On October 4, 2005, at approximately 0535 hours, the plant entered Mode 4 from Mode 5 with the 32 FCU inoperable. TS LCO 3.0.4 states in part when an LCO is not met, entry into a Mode or other specified condition in the TS Applicability shall only be made after performance of a risk assessment addressing inoperable components, consideration of the results, determination of the acceptability of entering the Mode or other specified condition, and establishment of risk management actions, if appropriate. Because operations did not know the 32 FCU was inoperable and entered Mode 4, TS 3.0.4 was violated because the requirements of TS 3.0.4 were not performed. After discovery of an inoperable 32 FCU on October 5, 2005, TS 3.6.6.C was entered at 23:50 hours, for one containment fan cooler train inoperable. The 32 FCU breaker was inspected and on October 6, 2005, at approximately 0047 hours, it was racked in, closed (connected) and verified locally to be in operation. TS 3.6.6.C was exited at this time. The event was recorded in the IPEC corrective action program (CAP) as CR-IP3-2005-04744. An extent of condition inspection was performed to determine if any other 480 Volt breakers were not racked in to their fully connected position. On October 6, 2005, at approximately 0200, all required 480 Volt breakers were verified to be in the connected position.

CAUSE OF EVENT

The direct cause of the TS violation was failure to perform the required actions of TS 3.0.4 prior to making Mode changes from Mode 5 for an inoperable 32 FCU. The cause of the inoperable 32 FCU was improper installation due to personnel error. The failure to identify the inoperable FCU condition was due to ineffective use of a systematic and rigorous problem resolution process. Operations was notified by SE of FCU SW cooling water temperature data that indicated the FCU was not operating. Operations failed to adequately disposition the SE information on the 32 FCU in a timely manner due to a weak questioning attitude. Operations was focused on unit startup and watch turnover and did not pursue a rigorous problem resolution or validate the explanation for the FCU cooling water temperature data.

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Operations relied solely on Control Room indications and did not use other means to ensure the reason for the FCU SW temperature condition was understood. There was no follow through on the attempt to obtain local confirmation of SW exit temperature. Operations attributed the low FCU SW temperature data to an instrument problem without verifying the assumption or obtaining confirmation of the actual temperature or equipment status. On Operations shift turnover the 32 FCU concerns were raised but dispositioned as no operability issue. The Outage Control Center (OCC) was not tracking the issue to ensure its proper resolution prior to Mode changes. The FCU operability evaluation was classified as operable but open with no Mode hold initiated although verification actions had not been completed. Neither Operations nor Site procedures prevent Mode changes with an operability evaluation still open, unless it is designated a Mode hold item.

CORRECTIVE ACTIONS

The following corrective actions have been or will be performed under the Corrective Action Program (CAP) to address the causes of this event:

- The 480 Volt AC breaker for the 32 FCU was racked out and inspected by Operations, Engineering, and Electrical Maintenance. No problems were identified as a result of the inspection. An experienced operator racked in the breaker and verified locally that the 32 FCU was in operation at 0047 hours, on October 6, 2005. TS 3.6.6.C was exited at that time.
- Focused training was provided to Nuclear Plant Operators (NPO) on verifying 480 Volt Westinghouse Type DS breaker position.
- The applicable portions of this event will be added to the Operating Experience section of the Operations Training Lesson Plans for the 480 Volt Electrical System and the Containment Cooling and Filtration System. Lesson Plan enhancement is schedule to be completed by December 31, 2005.
- Operations personnel and Planning, Scheduling and Outage Management (PS&O) personnel will be coached on this event with a reinforcement of the importance of equipment operability, the need for rigor in problem resolution and operability evaluations, the need to examine any evidence that calls operability into question, and management's expectation of a questioning attitude. Coaching of Operations personnel and PS&O personnel will be completed by December 31, 2005.
- Procedure OAP-1, "Conduct of Operations," will be revised to require confirmatory observation of flow, pressure, component current or buss current when performing planned starts of 480V and 6.9kV motors. Revision of procedure OAP-1 is scheduled to be completed by December 31, 2005.

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- System Operating Procedure 3-SOP-EL-004, will be revised to include position verification of a 480V breaker when racked into the connect position. Procedure revision is scheduled to be completed by January 31, 2006.
- Procedure SMM-OU-102, "Startup Management," will be revised to require sign-off by the Corrective Action & Assessment (CA&A) Department on Mode change sheets to include verification that any CAP operability actions have either been closed or deemed by Operations not to be applicable to the Mode. Procedure revision is scheduled to be completed by March 1, 2006.
- A Station Clock Reset and Red Memo was issued to site personnel to advise site personnel of the event and convey management's expectation of applying a rigorous, systematic and appropriately skeptical process (questioning attitude) to resolution of problems.
- The event will be provided as Operating Experience in Licensed and Non-licensed Operator Requalification Training and provided in Engineering ESP Continuing Training to reinforce the importance of equipment operability and the need to examine evidence that questions operability decisions and to obtain independent confirmation or refutation of the evidence. Inclusion of event in requalification training is scheduled to be completed by March 15, 2006. Inclusion of the event in Engineering Continuing Training will be by the next scheduled ESP training.

EVENT ANALYSIS

The event is reportable under 10CFR50.73(a)(2)(i)(B). The licensee shall report any operation or condition which was prohibited by the plant's Technical Specification.

This event meets the reporting criteria because the condition of the 32 FCU caused it to be inoperable. Technical Specification (TS) 3.6.6 requires three FCU trains to be operable in Modes 1 through 4. On October 4, 2005, at approximately 0535 hours AM, the plant entered Mode 4 from Mode 5 with the 32 FCU inoperable. TS LCO 3.0.4 states in part when an LCO is not met, entry into a Mode or other specified condition in the TS Applicability shall only be made after performance of a risk assessment addressing inoperable components, consideration of the results, determination of the acceptability of entering the Mode or other specified condition, and establishment of risk management actions, if appropriate. Prior to changing Modes, the required actions of TS 3.0.4 were not performed because operations did not know the 32 FCU was inoperable. As a result, on October 4, 2005, operations entered Mode 4 at 0535 hours AM, violating TS 3.0.4.

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PAST SIMILAR EVENTS

A review of the past three years of Licensee Event Reports (LERs) for events that involved TS prohibited conditions as a result of inoperable TS equipment identified two (2) LERs; LER-2005-001 and LER-2003-004. LER-2005-001 reported a condition in which a control room ventilation system damper had a linkage that was installed in the reverse position. LER-2005-001 is similar because a TS component was not installed correctly which resulted in an inoperable condition requiring TS entry which was not performed. However, the root cause of the TS violation as a result of an inappropriately installed linkage was inadequate work instructions which are different from this event. Therefore, corrective actions for the event reported in LER-2005-001 would not have prevented this event. LER-2003-004 reported a condition of a failed surveillance for a battery cell but the TS was not entered because the operations Shift Manager accepted the test supervisor conclusion that considered the battery still operable. LER-2003-004 is similar because the TS was not entered due to an inoperable TS component. The root cause of the failure to enter the TS was inadequate work practices and document use practices due to documents not followed correctly. Contributing causes were verbal communication and work practices. The SM overly relied on engineering review results and did not seek peer review. The engineering review did not consider the applicable TS. The corrective actions for the event reported in LER-2003-004 would not have prevented this event because this event was caused by an ineffective use of a rigorous and systematic problem resolution process and not an incorrect TS implementation.

SAFETY SIGNIFICANCE

This event had no effect on the health and safety of the public. There were no actual safety consequences for the event because there was no transients or accidents requiring the containment heat removal system. Adequate containment heat removal was available with the remaining FCUs.

There were no potential safety consequences of this event under reasonable and credible alternative conditions because the safety function could have been performed without the 32 FCU. The Containment Fan Cooling System (BK) is designed for single failure and therefore could provide required cooling with one of five FCUs inoperable. 32 FCU was inoperable for a total of 8 days, 12 hours, 18 minutes (from 12:29 on September 28 to 00:47 on October 6). However, during this period the 32 FCU was not required to be operable while the plant was in Mode 5 for 1 day, 22 hours, 3 minutes. Both containment spray (BE) trains were operable in accordance with the TS during this time. TS 3.6.6 has an Allowed Outage Time (AOT) of 7 days for one fan cooler (FC) train inoperable and a 72 hour AOT for two FC trains inoperable. The impact of other FCUs out of service was evaluated and it was determined that there was no condition which exceeded the TS AOT. Therefore, the inoperability of the 32 FCU was within the TS AOT which is condition that is not risk significant.