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J. E. Pollock
Site Vice President

NL-09-102

August 7, 2009

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

SUBJECT: Licensee Event Report # 2009-005-00, "Technical Specification Prohibited Condition Due to Exceeding the Allowed Completion Time for an Inoperable 480 Volt Undervoltage/Degraded Grid Relay Caused by Personnel Error"
Indian Point Unit No. 3
Docket No. 50-286
DPR-64

Dear Sir or Madam:

Pursuant to 10 CFR 50.73(a)(1), Entergy Nuclear Operations Inc. (ENO) hereby provides Licensee Event Report (LER) 2009-005-00. The attached LER identifies an event where there was a Technical Specification prohibited condition for an inoperable 480 volt Bus Undervoltage/Degraded Grid Relay during past operation, which is reportable under 10 CFR 50.73(a)(2)(i)(B). This condition was recorded in the Entergy Corrective Action Program as Condition Report CR-IP3-2009-02664.

There are no new commitments identified in this letter. Should you have any questions regarding this submittal, please contact Mr. Robert Walpole, Manager, Licensing at (914) 734-6710.

Sincerely,

Patrick W. Conway for J. Pollock

JEP/cbr

cc: Mr. Samuel J Collins, Regional Administrator, NRC Region I
NRC Resident Inspector's Office, Indian Point 3
Mr. Paul Eddy, New York State Public Service Commission
LEREvents@INPO.org

JEP
NRC

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)

1. FACILITY NAME: INDIAN POINT 3

2. DOCKET NUMBER
05000-286

3. PAGE
1 OF 4

4. TITLE: Technical Specification Prohibited Condition Due to Exceeding the Allowed Completion Time for an Inoperable 480 Volt Undervoltage/Degraded Grid Relay Caused by Personnel Error

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
6	09	2009	2009	005	00	08	07	2009	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE 1	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)								
10. POWER LEVEL 100%	<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 Troy Schaefer, Sr. Design Engineer Instrumentation & Controls	TELEPHONE NUMBER (Include Area Code) (914) 271-7455
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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
X	ED	62	A109	Y					

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 June 9, 2009, the inoperability during past operation of a 480 volt time delay relay was identified during an NRC Problem Identification and Resolution (PI&R) inspection. The inspection identified that a relay (62-1/3A) for 480 volt bus 3A had been documented in November 2007 for failing its As-Found acceptance tolerance including its Technical Specification (TS), required value during performance of a surveillance test. The previous months test also showed it failed these test criteria. The relay in each test was calibrated to within tolerance within the TS allowed outage time. In accordance with reporting guidelines, the failure is assumed to occur at the time of discovery unless there is firm evidence, based on review of relevant information, to indicate the discrepancy existed previously. A corrective action (CA) was initiated for the November 2007 event and evaluated by engineering for past operability. The engineer incorrectly concluded the relay had been performing satisfactorily and failed to recognize the significant drift as a degraded component. The significant drift and repeat failures would indicate the relay was inoperable during past operation and exceeded the TS allowed outage time. The relay was replaced in November 2007. The apparent cause was personnel error due to inadequate knowledge of the drift monitoring program and component drift performance. CAs included reinforcement of management expectation for initiating CRs for as-found failures; development of expectations and guidance for evaluation and disposition of as-found surveillance failures, and re-evaluation of the functional failure determination for failed components. The event had no effect on public health and safety.

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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 June 9, 2009, the inoperability during past operation of a 480 volt undervoltage/degraded grid (UV/DGV) relay {62} was identified during resolution of questions by NRC inspectors for a Problem Identification and Resolution (PI&R) inspection. NRC review of Corrective Action Program (CAP) condition reports (CRs) identified a CR that recorded an Agastat time delay relay (62-1/3A) for 480 volt bus 3A {ED}. The relay failed its As-Found acceptance tolerance including its Technical Specification (TS) required value during performance of surveillance test 3-PT-M62A (480 Volt Undervoltage/Degraded Grid Protection System Bus 2A and 3a Functional) on November 8, 2007. CR-IP3-2007-04210 recorded this condition. A review of prior tests identified testing the previous month also showed it failed these test criteria. Test failure of this relay on October 11, 2007, was recorded in CR-IP3-2007-03869. A September 13, 2007 test was identified where the relay was outside the As-Found calibration acceptance criteria but within the TS limit. TS 3.3.5 (Loss of Power Diesel Generator Start Instrumentation) surveillance requirement SR 3.3.5.2 specifies for degraded voltage (480 volt bus) relay (Non-Safety Injection) an allowable value of equal to or greater than 414 volts with a time delay of equal to or less than 45 seconds. The relay for each test was calibrated to within tolerance within the TS allowed outage time. In accordance with reporting guidelines, the discrepancy is assumed to occur at the time of discovery unless there is firm evidence, based on review of relevant information such as equipment history and the cause of the failure, to indicate the discrepancy existed previously.

A corrective action (CA) was initiated for the November 8, 2007 test failure, that included the October 11, 2007 test failure, which design engineering instrumentation and control (DE I&C) evaluated for past operability to determine if the relay went out of calibration prior to the time of discovery. The DE I&C engineer assigned to enter component drift data and evaluate failures was not specifically knowledgeable in component failure analysis nor drift analysis. The Drift Monitoring Program (DMP) had transferred from Programs and Component engineering (P&CE) to I&C DE in early 2006. P&CE discontinued entering data and overseeing the program at that time but DE I&C did not assume responsibility until January 2007 which resulted in test data not completely entered until August 2008. The lapse in the DMP administration was recorded in CR-IP3-2007-3426. There was no training on the DMP software nor expectations on evaluating the drift data being entered into the program except for guidance provided in the DMP procedure O-PCE-AD-01 (Drift Monitoring Program). DE I&C used the DMP guidance which stated that for, "more than two of the last five test failures, then the failure is assumed to have occurred prior to the time of discovery." Since at the time it was not believed relay 62-1/3A had more than two test failures in the last five tests, the DE I&C engineer concluded that the relay did not demonstrate unacceptable performance. However, the DE I&C engineer failed to recognize additional procedural guidance which stated, "The review will concentrate not only on the components past history, but the magnitude in which the component was found out of tolerance."

The DE I&C engineer incorrectly concluded the relay had been performing satisfactorily and failed to recognize the significant magnitude of the failure which was well outside the manufacturer's repeat accuracy (drift). The significant drift and repeat failures would indicate the relay was inoperable during past operation and exceeded the TS allowed outage time. The DMP software does not document TS values therefore, the October 2007 test failure to meet TS SR was not recognized and the lack of drift analysis knowledge led to not recognizing the large shift in As-Found test data as a degraded condition.

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The relay was replaced in November 2007. The event was recorded in the Indian Point Energy Center corrective action program (CAP) as CR-IP3-2009-02664. The degraded relay is a time delay relay (62-1/3A) {62} Series E7000, Model E7014PD004 manufactured by Agastat {A109}.

The extent of condition applies to all As-Found surveillance test failures. Each time a component in a surveillance test fails its As-Found calibration acceptance criteria, the component history, direction of failure, and magnitude of failure, needs to be evaluated. A sample portion of surveillance test data from the time period of pre 2007 to mid 2008, was reviewed for large shifts in drift. The review did not identify any other issues.

CAUSE OF EVENT

The apparent cause was personnel error due to inadequate knowledge of the drift monitoring program and component drift performance. The DE assigned to the DMP had no specialized training or knowledge in component drift and calibration analysis. The inadequate knowledge allowed the large drift that exceeded TS SR criteria in October 2007 to be treated as a normal As-Found failure instead of prompting a more rigorous evaluation. Contributing causes (CC): CC1: TS values are not specified in surveillance tests providing an error trap allowing test reviewers to believe that if an As-Found failure is calibrated back within tolerance the component was functioning acceptably; CC2: Failure to initiate a CR on the As-Found failure for the surveillance test of relay 62-1/3A performed on September 13, 2007. This failure to record in the CAP allowed the second failure to be considered a single test outlier instead of a second consecutive As-Found failure.

CORRECTIVE ACTIONS

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

- I&C Supervisors were coached to reinforce management's expectation for initiating CRs for as-found failures.
- Expectations and guidance will be developed for evaluation and disposition of as-found surveillance failures. Scheduled completion is August 31, 2009.
- The functional failure determination for prior relay failures will be re-evaluated. Scheduled completion is August 31, 2009.

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 plants Technical Specifications. On November 8, 2007, the surveillance test of Agastat relay 62-1/3A (480 volt bus 2A/3A) As-Found did not meet the TS calibration acceptance criteria. The November test failure was the second test failure of the TS value. These two failures along with a previous As-Found failure indicated the relay was a degraded component and exhibited abnormal drift. In accordance with reporting guidelines of NUREG-1022, the discrepancy is assumed to occur at the time of discovery unless there is firm evidence, based on review of relevant information such as equipment history and the cause of the failure, to indicate the discrepancy existed previously. The test results provided evidence that the relay drifted outside its acceptance criteria and therefore was inoperable during past operation. The condition of inoperability exceeded the TS allowed outage time.

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

The inoperable Agastat relay did not result in the loss of any safety function. Agastat relay 62-1/3A is a time delay relay whose timer setting drifted outside its acceptance criteria which would have caused it to actuate later than required. However, the relay would have still actuated upon demand. Relay actuation later than specified could result in the motors running on the 480 volt bus to trip on overcurrent if a degraded grid condition continued before the relay transferred bus loads to the emergency diesels. If the degraded voltage was accompanied by a safety injection (SI) signal, the 10 second relay timer would have transferred the bus loads to the emergency diesel generators (EDG). Engineering judgment concluded that the safeguards motors could have operated without damage. Therefore, there was no safety system functional failure reportable under 10CFR50.73(a)(2)(v).

PAST SIMILAR EVENTS

A review was performed of Licensee Event Reports (LERs) for the past three years for any events reporting TS prohibited conditions due to relays out of calibration specification resulting in inoperability. No applicable LERs were identified.

SAFETY SIGNIFICANCE

This event had no significant effect on the health and safety of the public. There were no actual safety consequences for the event because there were no UV or DGV conditions that challenged the bus or loads during past operation when the relay may have been out of specification.

The DGV protection on each 480 volt safety bus consists of two DGV relays arranged in a two-out-of-two logic. Functional actuation includes a time delay of 10 seconds if a coincident safety injection (SI) signal indicates accident conditions exist and a time delay of 45 seconds if no SI signal is generated (i.e., non-accident condition). The DGV relay reported in this LER was for DGV protection for the non-accident condition. When the two-out-of-two logic was made up, the function would not have been performed within 45 seconds. The 10 second time was operable so if a two-out-of-two logic was made up coincident with an SI signal the function would actuate as designed. The drift of the DGV relay timer setting would have caused it to actuate later than specified but it would have actuated on demand and provide 480 volt bus load transfer to the onsite emergency AC power source (EDGs). The actuation of the DGV relay later than specified could result in the motors running on the 480 volt bus to trip on overcurrent if a degraded grid condition continued before the DGV relay actuated and transferred bus loads to the EDGs. Engineering judgment indicates this would not have occurred. In the safety evaluation for TS Amendment No. 54, the original proposed time delay for DGV relays was less than or equal to 210 seconds for all conditions. The DGV for non-accident conditions was not proposed for equipment protection but was selected to allow sufficient time for the offsite power transformer automatic tap changer to attempt to restore offsite power voltage thereby preventing disconnection from the preferred power source. The 210 second DGV time delay was considered unacceptable for accident conditions and was revised to less than or equal to 10 seconds. The safety evaluation report noted the 210 second time delay was reasonable for non-accident conditions when minimum safety equipment is operating, when accepting the proposed revision to 45 seconds. The magnitude of the DGV time delay, although exceeding the 45 second TS limit, was well below the 210 seconds.