

Ernest J. Harkness
Vice President440-280-5382
Fax: 440-280-8029August 15, 2014
L-14-261

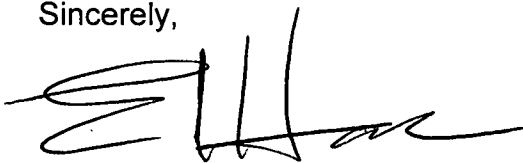
10CFR50.73(a)(2)(ii)(B)

ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001SUBJECT:
Perry Nuclear Power Plant
Docket No. 50-440, License No. NPF-58
Licensee Event Report Submittal

Enclosed is Licensee Event Report (LER) 2014-003, "Unanalyzed Condition Resulting From Unfused Direct Current Control Circuits." There are no regulatory commitments contained in this submittal.

If there are any questions or if additional information is required, please contact Mr. Nicola Conicella, Manager – Regulatory Compliance, at (440) 280-5415.

Sincerely,



Ernest J. Harkness

Enclosure:
LER 2014-003cc: NRC Project Manager
NRC Resident Inspector
NRC Region III

**LICENSEE EVENT REPORT (LER)**(See Page 2 for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@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

Perry Nuclear Power Plant

2. DOCKET NUMBER

05000-440

3. PAGE

1 OF 3

4. TITLE

Unanalyzed Condition Resulting From Unfused Direct Current Control Circuits

5. EVENT DATE

MONTH	DAY	YEAR
6	19	2014

6. LER NUMBER

YEAR	SEQUENTIAL NUMBER	Rev NO.
2014	003	00

7. REPORT DATE

MONTH	DAY	YEAR
8	XX	2014

8. OTHER FACILITIES INVOLVED

FACILITY NAME	DOCKET NUMBER
	05000
FACILITY NAME	DOCKET NUMBER
	05000

9. OPERATING MODE

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)
<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 checked="" 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 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**FACILITY NAME**

David Lockwood – Regulatory Compliance

TELEPHONE NUMBER (Include Area Code)

440-280-5200

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

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

Based on a review of industry operating experience, it was identified that the Perry Nuclear Power Plant (PNPP) has unfused direct current (DC) control circuits that are routed from the respective equipment to other plant areas including the Unit 1 Control Room, Division 1 Cable Spreading, and Division 1 Cable Chase. Without overcurrent protection for these circuits, the potential exists that an initial fire event affecting these circuits could cause short circuits that would cause excessive current through the circuit beyond the capacity rating of the conductors. This could lead to a secondary fire in another plant area where these circuits are routed, challenging the ability to achieve and maintain safe shutdown.

This condition is being reported under 10CFR50.73(a)(2)(ii)(B) as an unanalyzed condition that significantly degraded plant safety. Notification was made under 10CFR50.72(b)(3)(ii)(B) on June 19, 2014 (EN 50213).

The cause was determined to be latent design deficiency in the identified circuits dating back to original design and installation that was not identified during the design review for 10 CFR 50 Appendix R Section III.G (Fire protection of safe shutdown capability). Compensatory fire watches have been implemented for the affected fire areas. Planned corrective actions include plant modifications to install overcurrent protection in the affected DC control circuitry.

This event was determined to be of low safety significance.

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

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to InfoCollects.Resource@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.

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Energy Industry Identification System (EIS) codes are identified in the text as [XX]

INTRODUCTION

Based on a review of industry operating experience, it was identified that the Perry Nuclear Power Plant (PNPP) has unfused direct current (DC) control circuits [IC] that are routed from the respective equipment to other plant areas including the Unit 1 Control Room, Division 1 Cable Spreading, and Division 1 Cable Chase. Without overcurrent protection for these circuits, the potential exists that an initial fire event affecting these circuits could cause short circuits without protection that would cause excessive current through the circuit beyond the capacity rating of the conductors. This could lead to a secondary fire in another plant area where these circuits are routed, challenging the ability to achieve and maintain safe shutdown as required by the PNPP fire protection analysis.

This condition is being reported under 10CFR50.73(a)(2)(ii)(B) as an unanalyzed condition that significantly degraded plant safety. Notification was made under 10CFR50.72(b)(3)(ii)(B) on June 19, 2014, (EN 50213).

EVENT DESCRIPTION

On June 19, 2014, with the PNPP in MODE 1 at 100% rated thermal power, based on review of industry operating experience, it was determined that the potential exists for a secondary fire to occur due to unfused DC control circuits associated with the Turbine Emergency Bearing Oil Pump [TD], Reactor Feed Pump Turbine 'A' Emergency Lube Oil Pump [SL], Turbine Emergency Seal Oil Pump [TC] and Reactor Feed Pump Turbine 'B' Emergency Lube Oil Pump [SL]. A total of nine circuits were identified. These circuits are routed from the respective equipment to other plant areas including the Unit 1 Control Room, Division 1 Cable Spreading, and Division 1 Cable Chase.

Without overcurrent protection for these circuits, the potential exists that an initial fire event affecting these circuits could cause short circuits that would cause excessive current through the circuit beyond the capacity rating of the conductors. This could lead to a secondary fire in another plant area these circuits are routed through challenging the ability to achieve and maintain safe shutdown as required by the PNPP fire protection analysis.

Compensatory fire watches were implemented for the affected fire areas in the Turbine Building [NM], Turbine Power Complex [NM], Heater Bay [NM], Control Complex [NA], Intermediate Building [NA] and Auxiliary Building [NF]

CAUSE OF EVENT

The cause was determined to be latent design deficiency in the identified circuits dating back to original design and installation that was not identified during the design review for 10 CFR 50 Appendix R Section III.G (Fire protection of safe shutdown capability).

EVENT ANALYSIS

Plant design in regard to IEEE cable separation, divisional independence, fire detection and suppression, coupled with Fire Protection procedures provides a reasonable assurance that post-fire safe shutdown will be achieved and maintained for the identified condition. Additionally, the DC control cables insulation are cross-linked thermosetting polyethylene. Thermoset insulation as opposed to thermoplastic insulation can withstand higher temperatures during longer periods of time and burns at lower rates. Based on these aspects of the plant design and operation, there is a reasonable assurance that post-fire safe shutdown would be achieved and maintained given the postulated failure mode and the events that would have to occur in order to achieve the postulated condition.

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CORRECTIVE ACTIONS

Compensatory fire watches have been implemented for the affected fire areas . Planned corrective actions include plant modifications to install overcurrent protection in the affected DC control circuitry.

PREVIOUS SIMILAR EVENTS

A review of Licensee Event Reports and the corrective action database for the past three years determined that two similar events had occurred.

LER 2011-001, Fire Protection Design Vulnerability Results in an Unanalyzed Condition, documented a condition where during a review for applicability of a 10 CFR 21 notification made by WorleyParsons (formerly Gilbert/Commonwealth), an original plant design wiring deficiency was identified. The deficiency is in the design of two control room alternating current ammeter circuits and results in the plant being vulnerable to a hot short in the unlikely event of a postulated control room fire.

LER 2013-004, Vulnerability to Cause Secondary Fire Due to Unfused Control Room Ammeters, documented a condition where a review of industry operating experience regarding the impact of unfused DC ammeter circuits in the Control Room determined the described condition to be applicable to the PNPP.

In both events the corrective actions were focused on correcting the root and contributing causes and would not have been reasonably expected to have prevented the condition documented in LER 2014-003.

COMMITMENTS

There are no regulatory commitments contained in this LER. Actions described in this document represent intended or planned actions, are described for the NRC information, and are not regulatory commitments.