10 CFR 50.73

A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear Generating Station

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102-06394-DCM/JR
August 29, 2011

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS) Unit 1
Docket No. STN 50-528
License No. NPF- 41
Licensee Event Report 2011-002-00

Enclosed please find Licensee Event Report (LER) 50-528/2011-002-00 that has been prepared and submitted pursuant to 10 CFR 50.73 to report a condition prohibited by Technical Specifications. Specifically, the 120 volt class power supply cables to the A and B train Qualified Safety Parameter Display System (QSPDS) modems did not meet the minimum separation criteria, rendering both trains of QSPDS inoperable for an amount of time greater than that allowed by Technical Specifications.

In accordance with 10 CFR 50.4, copies of this LER are being forwarded to the Nuclear Regulatory Commission (NRC) Regional Office, NRC Region IV and the Senior Resident Inspector. If you have questions regarding this submittal, please contact Marianne Webb, Section Leader, Regulatory Affairs, at (623) 393-5730.

Arizona Public Service Company makes no commitments in this letter.

Sincerely,

FOR D. C. MIMS

DCM/TNW/MNW/JR/gat

Enclosure

cc: E. E. Collins Jr. NRC Region IV Regional Administrator
L. K. Gibson NRC NRR Project Manager for PVNGS (electronic / paper)
J. R. Hall NRC NRR Senior Project Manager (electronic / paper)
M. A. Brown NRC Senior Resident Inspector for PVNGS

IE22
NRR

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

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 Section (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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Palo Verde Nuclear Generating Station (PVNGS) Unit 1	05000528	1 OF 4

4. TITLE

Nonconforming Condition Renders the Qualified Safety Parameter Display System 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
06	29	2011	2011	- 002 -	00	08	29	2011	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE

1

10. POWER LEVEL

100

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

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Marianne Webb, Section Leader, Regulatory Affairs	623-393-5730

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

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

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR
10	21	2012

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

On July 1, 2011, at approximately 15:30 Mountain Standard Time, both trains of the Qualified Safety Parameter Display System (QSPDS) were declared INOPERABLE when it was discovered that the 120 volt class power supply cables to the A and B train QSPDS display modems did not meet the physical separation criteria per Regulatory Guide 1.75 and PVNGS Installation Specification for Cable Splicing and Terminations 13-EN-0306. Accordingly, Conditions A and C of Technical Specification Limiting Condition for Operation (LCO) 3.3.10, Post Accident Monitoring (PAM) Instrumentation, were entered. On July 3, 2011, at 16:05, Conditions A and C of Technical Specification LCO 3.3.10 were exited after the power supply cables to the A and B train QSPDS display modems were rerouted per work order instructions to meet the physical separation criteria.

The event investigation is in progress and the results will be reported in a supplement to this Licensee Event Report.

In the past three years, PVNGS has not reported a similar event of nonconformance to Regulatory Guide 1.75.

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NARRATIVE

All times are Mountain Standard Time and approximate unless otherwise indicated.

1. REPORTING REQUIREMENT(S):

This Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications (TS). Trains A and B of the Qualified Safety Parameter Display System (QSPDS)(EIIS: IP) were inoperable for an amount of time greater than that allowed by TS Limiting Condition for Operation (LCO) 3.3.10, Post Accident Monitoring (PAM) Instrumentation.

2. DESCRIPTION OF STRUCTURE(S), SYSTEM(S) AND COMPONENT(S):

The QSPDS analyzes and processes selected plant parameters and displays them to assist the operator (utility - licensed) in quickly assessing plant conditions during accident situations. Signals obtained from seismically qualified instrumentation are analyzed by class 1E microprocessors. The output of these microprocessors is transmitted to the Control Room for continuous display and recording. These outputs are also transmitted to the non-class Emergency Response Facility Data Acquisition and Display System (ERFDADS)(EIIS: IP).

The QSPDS consists of two redundant class 1E channels which are seismically qualified and electrically and physically independent for the display of safety parameters including inadequate core cooling (ICC) processing information. Indications provided include:

- Core exit temperature - signal processing and display
- Reactor Coolant System saturation (or subcooled) margin - computation and display
- Reactor vessel water level - signal processing and display

The ICC detection parameters provide the operator with continuous indication of the thermal-hydraulic state within the reactor vessel during the progression of an event leading to and from ICC.

The QSPDS transmits data to the Control Room display units via fiber optic communication modems which are installed in control board B04. The fiber optic communication modems receive 120 VAC power independent of other QSPDS component power supplies. The QSPDS includes other independent data transmission interfaces to display equipment on control board B02 and ERFDADS.

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3. INITIAL PLANT CONDITIONS:

On June 29, 2011, Palo Verde Unit 1 was in Operating MODE 1 (Power Operation) at 100 percent power at normal operating temperature and normal operating pressure. There were no other major structures, systems, or components that were inoperable at the start of the event that contributed to the event.

4. EVENT DESCRIPTION:

On June 29, 2011, in preparation for a modification to upgrade QSPDS, a walk down of the installed system in Unit 1 was performed. During the walk down, it was discovered that the 120 volt class power supply cables to the A and B train QSPDS display modems in control board B04 did not meet the minimum six inch physical separation criteria per Regulatory Guide 1.75 and Palo Verde Nuclear Generating Station (PVNGS) Installation Specification for Cable Splicing and Terminations 13-EN-0306. On July 1, 2011, at 15:30, following further evaluation by Engineering and Operations, both trains of QSPDS were declared INOPERABLE. Conditions A and C of TS LCO 3.3.10, Post Accident Monitoring (PAM) Instrumentation, were entered. On July 3, 2011, at 16:05, both trains were declared OPERABLE and Conditions A and C of TS LCO 3.3.10 were exited after the power supply cables to the A and B train QSPDS display modems were rerouted per work order instructions to meet the physical separation criteria.

5. ASSESSMENT OF SAFETY CONSEQUENCES:

The inadequate separation between the power supply cables to the A and B train QSPDS display modems could potentially cause a loss of power, due to a single fault, to both of the display modems that feed the QSPDS displays located on the Unit 1 control board B04. In the event that the QSPDS displays become unavailable, the train A Post Accident Monitoring recorders on control board B02, fed directly from the A QSPDS instrument chassis, would still remain available to the operators. Additionally, the communication link between both trains of QSPDS and ERFDADS would remain available to permit full functionality of data retrieval via ERFDADS for the operators and the Emergency Response Organization.

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This event did not result in any challenges to the fission product barriers or result in the release of radioactive materials. There were no actual safety consequences as a result of this event. This event did not prevent the fulfillment of a safety function and did not result in a safety system functional failure as described by 10 CFR 50.73 (a)(2)(v).

6. CAUSE OF THE EVENT:

The 120 volt class power supply cables to the A and B train QSPDS display modems were installed with less than six inches of physical separation, which did not meet Regulatory Guide 1.75 Revision 1, 1975, and PVNGS Installation Specification for Cable Splicing and Terminations 13-EN-0306 separation criteria.

The event investigation is in progress and the results will be reported in a supplement to this LER.

7. CORRECTIVE ACTIONS:

As an immediate corrective action, the power supply cables to the A and B train QSPDS display modems were rerouted per work order instructions to meet the physical separation criteria and both trains of QSPDS were declared OPERABLE. In addition, the work order package for the QSPDS upgrade modification has been revised to contain Regulatory Guide 1.75 and PVNGS Installation Specification for Cable Splicing and Terminations 13-EN-0306 requirements in the work instructions.

The event investigation is in progress and the results will be reported in a supplement to this LER.

8. PREVIOUS SIMILAR EVENTS:

PVNGS has not reported a similar event in the past three years.