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PG&E Letter DCL-22-093

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

10 CFR 50.73

Docket No. 50-323, OL-DPR-82
Diablo Canyon Power Plant, Unit 2
Unit 2 Licensee Event Report 2022-001-00, Unit 2 Reactor Coolant System Pressure Boundary Degradation

Dear Commissioners and Staff,

In accordance with the requirements of 10 CFR 50.73(a)(2)(ii)(A), Pacific Gas and Electric Company (PG&E) hereby submits the enclosed Diablo Canyon Power Plant (DCPP) Unit 2 Licensee Event Report regarding a reactor coolant system boundary degradation related to a through-wall leak in a socket weld.

PG&E makes no new or revised regulatory commitments (as defined by NEI 99-04) in this report. All corrective actions identified in this letter will be implemented in accordance with the DCPP Corrective Action Program.

This event did not adversely affect the health and safety of the public.

If you have any questions or require additional information, please contact Mr. James Morris, Regulatory Services Manager, at (805) 545-4609.

Sincerely,

Dennis B. Petersen

12/21/2022
Date

jmsp/51168277-12

Enclosure
cc/enc: Mahdi O. Hayes, NRC Senior Resident Inspector
Samson S. Lee, NRR Senior Project Manager
Scott A. Morris, NRC Region IV Administrator
INPO
Diablo Distribution

NRC FORM 366 (08-2020) U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2023

LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk ail: oira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name	2. Docket Number	3. Page
Diablo Canyon Power Plant, Unit 2	05000 00323	1 OF 3

4. Title
Unit 2 Reactor Coolant System Pressure Boundary Degradation

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	Docket Number
10	23	2022	2022	- 001 -	00	12	21	2022		05000
										05000

9. Operating Mode	10. Power Level
6	000

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*

10 CFR Part 20	☐ 20.2203(a)(2)(vi)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	**10 CFR Part 73**
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(4)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(i)	**10 CFR Part 21**	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(1)(i)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(i)
☐ 20.2203(a)(2)(iii)	**10 CFR Part 50**	☑ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.77(a)(2)(ii)
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2203(a)(2)(v)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	

☐ **OTHER** (Specify here, in abstract, or NRC 366A).

12. Licensee Contact for this LER

Licensee Contact	Phone Number (Include area code)
David Madsen, Licensing Engineer	805-545-6192

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to IRIS	Cause	System	Component	Manufacturer	Reportable to IRIS
X	AB	PSF	-	Yes					

14. Supplemental Report Expected		15. Expected Submission Date	Month	Day	Year
☑ No	☐ Yes (If yes, complete 15. Expected Submission Date)				

16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 0830 PDT on 10/23/2022, during routine outage inspections on Unit 2, it was determined that the reactor coolant pressure boundary did not meet American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC) Section XI acceptance criteria due to finding a through-wall indication at a 2-inch stainless steel socket weld (Weld No. WIB-975D) on the cold leg Loop 1 vacuum refill connecting piping (Line No. 1140), and was therefore reportable.

This event is being reported per 10 CFR 50.73(a)(2)(ii)(A) as a degraded condition.

The presumed cause of the degradation was vibration-induced fatigue propagation of a flaw initiated at a weld defect. Corrective actions to address the condition consisted of performing a weld repair in accordance with ASME BPVC Section XI Case N-666-1 during the refueling outage.

There was no impact to the health and safety of the public or plant personnel.

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2023

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, Library, and Information Collections Branch (T-6 A10M), U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

NARRATIVE

I. Reporting Requirements

This event is being reported for Diablo Canyon Power Plant (DCPP) Unit 2 in accordance with 10 CFR 50.73(a)(2)(ii)(A) and the associated guidance of NUREG-1022, Revision 3, as a degraded condition due to the failure to meet American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC) Section XI acceptance criteria for a 2-inch stainless steel socket weld (Weld No. WIB-975D) on the cold leg Loop 1 vacuum refill connecting piping (Line No. 1140).

This event was initially reported in Event Notification 56176 in accordance with the requirements of 10 CFR 50.72(b)(3)(ii)(A) as a degraded condition.

II. Plant Conditions

At the time of the event, DCPP Unit 2 was in MODE 6, Refueling during the twenty-third refueling outage for that unit (2R23).

III. Problem Description

A. Background

Reactor Coolant System (RCS) [AB] Line 1140 serves as a normally closed vacuum refill connection point on the RCS Loop 1 cold leg piping downstream of reactor coolant pump (RCP) 2-1. The subject piping's function is to facilitate the vacuum refill method of filling the RCS when preparing for plant operation at the conclusion of a refueling outage.

DCPP Updated Final Safety Analysis Report (UFSAR) Section 5.2.2.1 states, in part, that the reactor coolant pressure boundary (RCPB) is defined as those piping systems and components that contain reactor coolant at design pressure and temperature. RCPB piping systems and components are defined as Pacific Gas and Electric Company (PG&E) Quality/ Code Class I, with the exception of those RCPB components excluded from PG&E Quality/Code Class I requirements by 10 CFR 50.55a, as described in UFSAR Section 3.2.2.3. With the exception of the reactor coolant sampling lines, the entire RCPB, as defined above, is located entirely within the containment structure.

The RCS boundaries are designed to accommodate the system pressures and temperatures attained under all expected modes of plant operation, including all anticipated transients, and to maintain the stresses within applicable limits.

B. Event Description

At 0830 PDT on 10/23/2022, during routine outage inspections on Unit 2, it was determined that the RCPB did not meet ASME BPVC Section XI acceptance criteria due to identification (boric acid residue) of a through-wall indication at a 2-inch stainless steel socket weld (Weld No. WIB-975D) on the cold leg Loop 1 vacuum refill connecting piping (Line No. 1140), and was therefore reportable.

The event was subsequently reported in Event Notification 56176 in accordance with the requirements of 10 CFR 50.72(b)(3)(ii)(A) as a degraded condition.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER YEAR	SEQUENTIAL NUMBER	REV NO.
Diablo Canyon Power Plant, Unit 2	05000- 00323	2022	- 001	- 00

NARRATIVE

C. Status of Inoperable Structures, Systems, or Components (SSCs) that Contributed to the Event

There were no SSCs that were inoperable at the start of the event that contributed to the Event.

D. Method of Discovery

This condition was discovered during a routine piping and valve walkdown as part of the station's boric acid corrosion control program.

E. Operator Actions

None were required. The condition was discovered during routine walkdowns during plant refueling. There was no active leak from the weld observed at the time of discovery.

F. Safety System Responses

None required.

IV. Cause of the Problem

The direct cause of the indication was vibration-induced fatigue propagation initiated at a weld flaw.

V. Assessment of Safety Consequences

The condition did not adversely affect the health and safety of the public or on-site personnel. The boric acid residue found was indicative of a through-wall leak and active leakage was not observed at the time the condition was identified in Mode 6. Calculated total RCS leakage rates for the previous Unit 2 operating cycle were negligible, indicating that any through-wall leakage was minimal. Additionally, the weld indication was localized in nature with no other accompanying indications.

VI. Corrective Actions

The weld was repaired in accordance with ASME BPVC Section XI Code Case N-666-1. The weld repair was completed on 10/31/2022 and passed required inspections. This was the only connecting piping of this configuration on the remaining RCS loops. Finalization of the cause evaluation and implementation of corrective actions will be managed in accordance with the DCPP Corrective Action Program.

VII. Additional Information

There have been no similar events at DCPP in the previous three years.