

NRR-PMDAPEm Resource

From: Singal, Balwant
Sent: Wednesday, May 03, 2017 4:24 PM
To: janeslo@icloud.com
Cc: Newport, Christopher; Reynoso, John; Haire, Mark; Alexander, Ryan; Pascarelli, Robert; Young, Austin; Rudland, David; Poehler, Jeffrey
Subject: Response to Mothers for Peace (MFP) Questions on Diablo Canyon Power Plant (DCPP), Unit 2 Relief Request NDE-SIF-U2
Attachments: Responses.docx

Dear Ms. Swanson,

I am responding to your e-mail dated April 15, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17108A476), to the U.S. Nuclear Regulatory Commission (NRC), regarding the Diablo Canyon Power Plant, Unit 2 (DCPP). Specifically, the e-mail communicated questions regarding DCPP relief request NDE-SIF-U2 for relief from American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, inservice inspection requirements (ADAMS Accession No. ML17086A013). The attached document provides the response to your questions. Please feel free to contact me or the resident staff, if you prefer, for any further clarifications. The contact information for the resident staff has been included in the attachment.

As always, the health and safety of the public is of paramount importance to the NRC, and we appreciate your interest in our mission.

Thanking you.

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Options

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By letter dated April 3, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17086A013), the U.S. Nuclear Regulatory Commission (NRC) staff authorized relief request (RR) NDE-SIF-U2 for Diablo Canyon Power Plant (DCPP), Unit 2.

By e-mail dated April 15, 2017 (ADAMS Accession No. ML17108A476), Ms. Lucy J. Swanson of San Luis Obispo Mothers for Peace (MFP), requested the NRC Staff to provide responses to the following questions:

1. On page 2 of the attachment [to the NRC letter dated April 3, 2017] under [section] 3.1 it is stated that both welds were examined in the 19th refueling outage. That outage concluded in June of 2016. Do I understand correctly that the welds in question were thoroughly examined at that time?
2. In section 3.3 [of the attachment] are statements about ultrasonic examinations covering 63% [percent] and 52% of welds. Is the impracticality referred to in this document defined by the fact that, when in operating mode, it is impossible to access the welds in the way they can be accessed during an outage?
3. Will the welds be inspected during future outages? If so, during what month/s would such inspections take place?
4. Section 3.5 [of the attachment seems] to be an admission that the design of the seal injection filter vessel is faulty. The NRC staff concludes that therefore it is an unreasonable burden on the licensee to make them examine those welds. Mothers for Peace suggests that rather than offering bad design as an excuse, the fundamental problem should be addressed. Redesign and replace in the interest of public safety. The risks to workers at Diablo and the general public must outweigh the "burden upon the licensee."

BACKGROUND

By letter dated November 10, 2016 (ADAMS Accession No. ML16315A341), Pacific Gas and Electric Company (PG&E, the licensee) requested relief from the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," for the Diablo Canyon Power Plant (DCPP), Unit 2, reactor coolant pump (RCP) seal injection filter shell-to-flange and shell-to-head welds. The ASME Code, Section XI, requires that essentially 100% of each subject weld and adjacent base metal be volumetrically examined once during each inservice inspection (ISI) interval in accordance with the requirements of Appendix I, I-2210 of the ASME Code, Section XI.

Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.55a(g)(5)(iii), "ISI program update: Notification of impractical ISI Code requirements," the licensee requested relief from this requirement on the basis that meeting the Code requirement would be impractical for the facility due to the weld configurations. The NRC staff determined that the licensee adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(g)(6)(i) and the weld examination coverages obtained by the licensee provide reasonable assurance of the structural integrity and leak tightness of the subject welds. Therefore, the NRC staff granted the relief.

RESPONSES TO MFP QUESTIONS

Question 1:

On page 2 of the attachment [to the NRC letter dated April 3, 2017] under [section] 3.1 it is stated that both welds were examined in the 19th refueling outage. That outage concluded in June of 2016. Do I understand correctly that the welds in question were thoroughly examined at that time?

Response:

The accessible portion of the reactor coolant pump (RCP) seal injection filter shell-to-flange and shell-to-head welds covered by the subject relief request were thoroughly examined during refueling outage 19 (2R19), which ended on June 2, 2016.

Question 2:

In section 3.3 [of the attachment] are statements about ultrasonic examinations covering 63% and 52% of welds. Is the impracticality referred to in this document defined by the fact that, when in operating mode, it is impossible to access the welds in the way they can be accessed during an outage?

Answer:

There is no difference in physical accessibility of the welds during an operating or refueling (outage) modes. For the shell-to-flange weld, geometric configuration of the flange and its proximity to the weld prevented full examination of the weld and for the shell-to-head weld the curvature of the head resulted in loss of contact between the vessel and the examination tool resulting in less than 100% coverage. To reduce the personnel dose exposure, these weld examinations are normally performed when the filter cartridge is removed from the filter, which is normally during a refueling outage.

Question 3:

Will the welds be inspected during future outages? If so, during what month/s would such inspections take place?

Answer:

The ASME Code endorsed by the NRC regulations mandates that these welds be inspected once every ISI interval, which is once every 10 years. An allowance of plus or minus one year is provided to enable examinations to be scheduled during a refueling outage. The subject welds will be scheduled for examination in accordance with the ASME Code, Section XI requirements in the 4th 10-year ISI interval which commenced on March 13, 2016. The exact date for the next inspection has not been established at this time.

Question 4:

Section 3.5 [of the attachment seems] to be an admission that the design of the seal injection filter vessel is faulty. The NRC staff concludes that therefore it is an unreasonable burden on the licensee to make them examine those welds. Mothers for Peace suggests that rather than offering bad design as an excuse, the fundamental problem should be addressed. Redesign and replace in the interest of public safety. The risks to workers at Diablo and the general public must outweigh the "burden upon the licensee."

Answer:

The amount of examination coverage achieved by the licensee for the seal injection filter welds is not a safety concern for the following reasons:

- NRC staff evaluation (Section 3.5 of the relief request) is focused on geometry/configuration of the seal injection filter vessel. The vessel design makes it impractical to perform a full volumetric inspection of the weld areas. This condition does not imply a design fault which endangers life or property. To this end, compliance with the ASME code requirements would place an impractical burden on the licensee since it would necessitate redesign of the vessel. The NRC staff determined that granting relief to the code requirement will not endanger life or property and therefore is acceptable. Please note that although the vessel geometry/configuration prevented full coverage examinations, the NRC staff determined that the licensee performed examinations of the subject welds to the maximum extent practical.
- The welds in question are similar metal welds (stainless steel-to-stainless steel) and based on the past experience in pressurized water reactors, there are no active degradation mechanisms in welds made of these materials.
- The amount of coverage obtained by the licensee provides a significant sample of both the welds and would be expected to provide an indication, if any general degradation was active in these welds.
- The affected welds are also subject to the pressure testing requirements of the ASME Code, Section XI, which provides an independent means to evaluate the structural integrity and leak tightness.
- In addition, there are multiple alarms which can be received by the operators in the main control room indicating potential impact on the RCP seal injection flow resulting from a leak from the RCP seal injection filter welds in question. An immediate operator action is initiated to verify any potential leak, isolate the leak path, and switch to the alternate seal injection filter, hence avoiding potential damage to the RCP seals.
- Further, it may be noted that the NRC staff's decision is based primarily on a reasonable assurance of the structural integrity and leak tightness of the subject welds and the public health and safety and not solely on the burden upon the licensee.

Ms. Swanson is also welcome to contact the following resident staff at DCPD site resident office for any clarifications, if she desires.

- Mr. Christopher Newport, Senior Resident Inspector at 805-595-2354 (Christopher.newport@nrc.gov)
- Mr. John Reynoso, Resident Inspector at 805-595-2353 (john.reynoso@nrc.gov)