

## **NRR-PMDAPem Resource**

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**From:** Singal, Balwant  
**Sent:** Tuesday, January 31, 2017 2:39 PM  
**To:** Cochran, Justin@Energy  
**Cc:** Weisenmiller, Robert@Energy; Oglesby, Rob@Energy; Barker, Kevin@Energy; Chester, Michelle@Energy  
**Subject:** RE: RE: Issuance of License Amendment Request for Diablo Canyon Power Plant, Units 1 and 2  
**Attachments:** StateOfficial-Comments.docx

Justin,

Thanks for your expedited response and comments. Please note that State of California comments are related to the plant operation since replacement of the non-safety-related Positive Displacement Pumps (PDPs) with non-safety-related Normal Charging Pumps (NCPs). Since the comments are not directly related to the amendment being issued, we are addressing your comments via this e-mail

The attached document provides some background information in addition to response to your comments. Please let us know if you have any additional questions.

Thanks.

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**From:** Cochran, Justin@Energy [<mailto:Justin.Cochran@energy.ca.gov>]  
**Sent:** Tuesday, January 24, 2017 3:06 PM  
**To:** Singal, Balwant <[Balwant.Singal@nrc.gov](mailto:Balwant.Singal@nrc.gov)>  
**Cc:** Weisenmiller, Robert@Energy <[Robert.Weisenmiller@energy.ca.gov](mailto:Robert.Weisenmiller@energy.ca.gov)>; Oglesby, Rob@Energy <[Rob.Oglesby@energy.ca.gov](mailto:Rob.Oglesby@energy.ca.gov)>; Barker, Kevin@Energy <[Kevin.Barker@energy.ca.gov](mailto:Kevin.Barker@energy.ca.gov)>; Chester, Michelle@Energy <[Michelle.Chester@energy.ca.gov](mailto:Michelle.Chester@energy.ca.gov)>  
**Subject:** [External\_Sender] RE: Issuance of License Amendment Request for Diablo Canyon Power Plant, Units 1 and 2

Good day Project Manager Singal,

Thank you for your patience.

At this time, the California State Liaison Officer Robert B. Weisenmiller has the following comments with regard to the License Amendment: Pacific Gas and Electric Company (PG&E), Docket Nos. 50–275 and 50–323, Diablo Canyon Nuclear Power Plant (DCPP), Unit Nos. 1 and 2, that would revise Technical Specification (TS) TS 3.4.12, “Low Temperature Overpressure Protection (LTOP) System,” to reflect mass input transient analysis that assumes an emergency core cooling system (ECCS) centrifugal charging pump (CCP) and the normal charging pump (NCP) capable of simultaneously injecting into the reactor coolant system (RCS) during the TS 3.4.12 applicability posted in the *Federal Register* on May 10, 2016 (81 FR 28899).

Updates to the Technical Specifications appear to have technical merits, and are defensible but the California State Liaison Officer has two comments due to the potential of the license amendment to impact facility operating safety.

- The license amendment does not clearly outline the circumstances and rationale for the subject LAR to be submitted approximately eight years later (on March 23, 2016).
- During this approximately eight year period, the license amendment does not identify if any related protective measures, other than the installed Flow Choking Orifice, were considered or implemented.

Thank you for your time and consideration.

Best Regards,

**Justin Cochran, Ph.D.**  
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**From:** "Singal, Balwant" <[Balwant.Singal@nrc.gov](mailto:Balwant.Singal@nrc.gov)>

**Date:** January 18, 2017 at 8:16:58 AM PST

**To:** ""[robert.weisenmiller@energy.ca.gov](mailto:robert.weisenmiller@energy.ca.gov)"" <[robert.weisenmiller@energy.ca.gov](mailto:robert.weisenmiller@energy.ca.gov)>, ""[catherine.cross@energy.ca.gov](mailto:catherine.cross@energy.ca.gov)"" <[catherine.cross@energy.ca.gov](mailto:catherine.cross@energy.ca.gov)>, ""[ira.schneider@cdph.ca.gov](mailto:ira.schneider@cdph.ca.gov)"" <[ira.schneider@cdph.ca.gov](mailto:ira.schneider@cdph.ca.gov)>

**Subject: Issuance of License Amendment Request for Diablo Canyon Power Plant, Units 1 and 2**

All,

The U.S. Nuclear Regulatory Commission (NRC) staff is in the process of issuing a license amendment to the license for DCPD in next 2-3 weeks. The amendments would revise Technical Specification (TS) TS 3.4.12, "Low Temperature Overpressure Protection (LTOP) System," to reflect mass input transient analysis that assumes an emergency core cooling system (ECCS) centrifugal charging pump (CCP) and the normal charging pump (NCP) capable of simultaneously injecting into the reactor coolant system (RCS) during the TS 3.4.12 applicability.

The proposed findings that the amendments involve no significant hazards consideration was published in the *Federal Register* on May 10, 2016 (81 FR 28899).

Please let us know if State of California has any comments. Your response by January 25, 2017 will be highly appreciated. Thanks.

**Hearing Identifier:** NRR\_PMDA  
**Email Number:** 3304

**Mail Envelope Properties** (Balwant.Singal@nrc.gov20170131143800)

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**Sent Date:** 1/31/2017 2:38:39 PM  
**Received Date:** 1/31/2017 2:38:00 PM  
**From:** Singal, Balwant

**Created By:** Balwant.Singal@nrc.gov

**Recipients:**

"Weisenmiller, Robert@Energy" <Robert.Weisenmiller@energy.ca.gov>

Tracking Status: None

"Oglesby, Rob@Energy" <Rob.Oglesby@energy.ca.gov>

Tracking Status: None

"Barker, Kevin@Energy" <Kevin.Barker@energy.ca.gov>

Tracking Status: None

"Chester, Michelle@Energy" <Michelle.Chester@energy.ca.gov>

Tracking Status: None

"Cochran, Justin@Energy" <Justin.Cochran@energy.ca.gov>

Tracking Status: None

**Post Office:**

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| MESSAGE                     | 4702        | 1/31/2017 2:38:00 PM   |
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**Options**

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**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**

# RESPONSE TO CALIFORNIA STATE LIAISON OFFICER COMMENTS

## COMMENTS

“At this time, the California State Liaison Officer Robert B. Weisenmiller has the following comments with regard to the License Amendment: Pacific Gas and Electric Company (PG&E), Docket Nos. 50–275 and 50–323, Diablo Canyon Nuclear Power Plant (DCPP), Unit Nos. 1 and 2, that would revise Technical Specification (TS) TS 3.4.12, “Low Temperature Overpressure Protection (LTOP) System,” to reflect mass input transient analysis that assumes an emergency core cooling system (ECCS) centrifugal charging pump (CCP) and the normal charging pump (NCP) capable of simultaneously injecting into the reactor coolant system (RCS) during the TS 3.4.12 applicability posted in the *Federal Register* on May 10, 2016 (81 FR 28899).

Updates to the Technical Specifications appear to have technical merits, and are defensible but the California State Liaison Officer has two comments due to the potential of the license amendment to impact facility operating safety.

- The license amendment does not clearly outline the circumstances and rationale for the subject LAR [license amendment request] to be submitted approximately eight years later (on March 23, 2016).
- During this approximately eight year period, the license amendment does not identify if any related protective measures, other than the installed Flow Choking Orifice, were considered or implemented.”

## RESPONSE

It is necessary to provide additional background information related to the LAR (detailed in PG&E letter dated March 23, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16084A588) requesting the subject LAR.

**Background** (from Section 2 of the Enclosure to PG&E Letter dated March 23, 2016):

In 2007, PG&E replaced the DCPP, Unit 1, non-safety-related positive displacement pump (PDP) with a non-safety-related CCP, called Normal Charging Pump (NCP) in order to alleviate operational issues associated with the PDP. In 2008, PG&E performed similar replacement of the on DCPP, Unit 2. PG&E also designed, tested and installed a flow choking orifice (FCO) called "LTOP orifice" to be used during LTOP operation to ensure that the total maximum mass injection capability with the NCP remained bounded by the LTOP mass injection analysis.

In 2013, the U.S. Nuclear Regulatory Commission (NRC) by letter dated January 3, 2013 (ADAMS Accession No. ML12341A083) issued an interpretation of the current licensing bases to Wolf Creek Generating Station (WCGS) concluding that the TS 3.4.12 Limiting

Condition of Operation (LCO) requirement is also applicable to the non-ECCS CCP (i.e. NCP). In 2013, DCPD revised its operating procedures associated with the NCP to comply with the requirements of TS 3.4.12 LCO.

The specific wording of Tech Spec 3.4.12 currently allows operation of only one CCP at a time (whether the CCP is a safety-related pump or non-safety-related pump) when the LTOP system is operable. This is overly restrictive to plant operations and therefore, this LAR is revising the DCPD TSs to allow combined operation of the NCP (i.e., a non-safety-related CCP) that is capable of injecting into the Reactor Coolant System (RCS) only through the LTOP orifice and one safety-related CCP (i.e., one ECCS CCP) that is also capable of injecting into the RCS, when the LTOP system is operable.

During the design change process (that replaced the PDP), the LTOP orifice was designed to ensure that the total maximum mass injection capability with the NCP remained bounded by the original NRC approved LTOP mass injection analysis with the PDP. Therefore, the current LTOP mass injection analysis, based on the PDP, still bounds the NCP operation that injects into the RCS only through the LTOP orifice such that no new mass injection analysis was required to support this LAR.

Answer to the Questions:

#### **Question - 1**

The license amendment does not clearly outline the circumstances and rationale for the subject LAR to be submitted approximately eight years later (on March 23, 2016).

#### **Response:**

PG&E operated with the PDP in conjunction with the one safety-related CCP when the LTOP system was operable before the replacements of PDP with NCP. TS 3.4.12 did not limit the use of PDP in conjunction with the one safety-related CCP. PG&E believed that the use of NCP aligned to LTOP orifice is also not restricted during LTOP condition, since the total maximum mass injection capability with the NCP aligned to LTOP orifice remained bounded by the original NRC approved LTOP mass injection analysis with the PDP. As noted above, the use of PDP in conjunction with one safety-related CCP was consistent with the assumptions of the DCPD, Units 1 and 2, analyses and there was no safety concern.

However, in 2013, the NRC staff issued TS interpretation for WCGS concluding that the TS 3.4.12 LCO requirement is also applicable to the NCP (NCP being a centrifugal pump) and in 2013, PG&E revised its operating procedures for DCPD, Units 1 and 2, to comply with the TSs.

Since the existing TS 3.4.12 is overly restrictive to plant operations and the operation of PDP in conjunction with one safety-related CCP is consistent with the DCPD, Units 1 and 2, analyses, PG&E has requested for this LAR.

**Question - 2**

During this approximately eight year period, the license amendment does not identify if any related protective measures, other than the installed Flow Choking Orifice, were considered or implemented.

**Response:**

Since the replacement of the PDP with NCP, PG&E was using NCP aligned through the LTOP orifice for LTOP operation in conjunction with one safety-related CCP consistent with the assumptions of the safety-analyses and the operation was controlled procedurally as required by TS Section 5.0. Since the operation was consistent with the assumptions of the safety-analyses, there was no safety concern. However, later based on TS interpretation issued by the NRC staff for WCGS, PG&E determined that this mode of operation was not consistent with the wording of the current TS 3.4.12 and in 2013 revised its operating procedures associated with the NCP to comply with the requirements of TS 3.4.12 LCO. The purpose of this amendment is for PG&E to revise TS 3.4.12 so that they can remove the restriction to use NCP (i.e., a non-safety-related CCP) in conjunction with one safety-related CCP and stay in compliance with the TS.