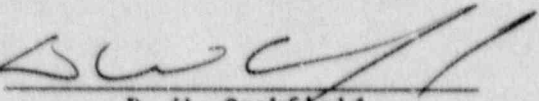


PORTLAND GENERAL ELECTRIC COMPANY
EUGENE WATER & ELECTRIC BOARD
AND
PACIFIC POWER & LIGHT COMPANY

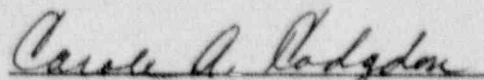
Operating License NPF-1
Docket 50-344
License Change Application 178

This License Change Application requests modifications to Section 3/4.7.3.1 and 3/4.7.3.2 of the Trojan Technical Specifications, Appendix A to Operating License NPF-1, for the Trojan Nuclear Plant.

PORTLAND GENERAL ELECTRIC COMPANY

By 
D. W. Cockfield
Vice President
Nuclear

Subscribed and sworn to before me this 13th day of November 1989


Notary Public of Oregon

My Commission Expires:

August 9, 1991



Reason for Change:

References 1 and 2 discussed an NRC concern regarding the ability of the Component Cooling Water (CCW) System to remain functional following a seismic event. During the August 1986 Safety System Functional Inspection of Trojan, the NRC determined that automatic isolation of the Seismic Category II portion of the CCW System may not occur in time to prevent blowdown of both trains. The NRC determined that the design basis for pipe ruptures in the Seismic Category II portion of the CCW System was a full area break.

As a result of the NRC findings, PGE committed to upgrade the CCW System by seismically supporting the non-seismic portions of the system. This commitment is documented in Reference 3. PGE committed to complete this upgrade by no later than the end of the 1989 refueling outage. The piping upgrade was performed in accordance with the criteria provided in Attachment A to this License Change Application (LCA). In the interim, the CCW System has been operated in a "split-train" configuration with the interface isolation valves for one train normally closed and with all three CCW pumps maintained in an operable status.

The NRC accepted PGE's course of action, as described above, in their letter dated December 15, 1987 (Reference 4) on the condition that the Trojan Technical Specifications be revised to address the split-train operation. This revision to the Technical Specifications was stated as necessary to provide the same level of protection and safety in the split-train configuration as that of the original Technical Specifications. LCA 164 (Reference 5) was submitted February 4, 1988 to provide the NRC with the proposed changes. The NRC accepted the changes in Amendment 141 to the Trojan operating license.

Based on the completion of the CCW System seismic upgrade during the 1989 refueling outage, this License Change Application (LCA) is submitted to revert back to the original CCW System Technical Specifications which were in place prior to LCA 164.

Description of Change:

The proposed changes are to Trojan Technical Specification 3/4.7.3.1 and 3/4.7.3.2 and associated bases.

1. Changes to Technical Specification 3/4.7.3.1:

- a. The limiting condition for operation (LCO) currently states:

"3.7.3.1 At least two independent component cooling water loops shall be OPERABLE, with one train isolated from Seismic Category II loads. The spare component cooling water pump shall be OPERABLE.

"APPLICABILITY: MODES 1, 2, 3, AND 4.

"ACTION: With the spare pump inoperable, restore the spare pump to OPERABLE status within 72 hours or be in COLD SHUTDOWN within the next 36 hours.

"With only one component cooling water train and spare pump OPERABLE, restore the other train to OPERABLE status within 72 hours or be in COLD SHUTDOWN within the next 36 hours."

This LCO will be changed to read as follows:

"3.7.3.1 At least two independent component cooling water loops shall be OPERABLE.

"APPLICABILITY: MODES 1, 2, 3 and 4

"ACTION: With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in COLD SHUTDOWN within the next 36 hours."

b. The Surveillance Requirements (f) and (g) will be deleted.

2. Changes to Technical Specification 3/4.7.3.2:

a. The LCO currently states:

"3.7.3.2 At least two component cooling water trains capable of supplying cooling water to equipment needed in MODES 5 and 6, or at least one train and the spare component cooling water pump, shall be OPERABLE.

"APPLICABILITY: MODES 5 and 6

"ACTION: With less than the required number of component cooling water trains OPERABLE, declare supported equipment inoperable.

"With only one component cooling water train OPERABLE and the spare pump inoperable, declare supported equipment inoperable."

This LCO will be changed to read as follows:

"3.7.3.2 At least one component cooling water train capable of supplying cooling water to equipment needed in MODES 5 and 6 shall be OPERABLE.

"APPLICABILITY: MODES 5 and 6

"ACTION: With less than the required number of component cooling water trains OPERABLE, declare supported equipment inoperable."

b. The Surveillance Requirements currently state:

"4.7.3.2 At least two component cooling water trains or one train and the spare component cooling water pump, shall be demonstrated OPERABLE . . ."

This Surveillance Requirement will be changed to read as follows:

"4.7.3.2 At least one component cooling water train shall be demonstrated OPERABLE . . ."

3. Changes to Technical Specification Bases 3/4.7.3.

The following paragraphs will be deleted from the CCW Technical Specification Bases.

"The OPERABILITY of the Component Cooling Water (CCW) System with one train isolated from Seismic Category II loads ensures that sufficient cooling capacity is available for continued operation of safety-related equipment following a seismic event. The OPERABILITY of the spare CCW pump ensures the availability of a CCW loop even with a single-failure concurrent with a seismic event."

"Operation in Modes 1 through 4 is permitted with one CCW train inoperable for up to 72 hours provided the spare CCW pump is OPERABLE. During this 72-hour time period, the OPERABLE CCW train should not be isolated from Seismic Category II loads to ensure a continuous supply of CCW cooling to the reactor coolant pumps. The spare CCW pump is considered OPERABLE provided Surveillance Requirements 4.7.3.1.b. and 4.7.3.1.g. have been met."

References:

1. Nuclear Regulatory Commission (NRC) letter to Portland General Electric Company (PGE), Failure Mode of Non-Seismic Category I Piping at Trojan, April 2, 1987.
2. PGE letter to NRC, Failure Mode of Non-Seismic Category I Piping at Trojan, May 6, 1987.
3. PGE letter to NRC, Component Cooling Water (CCW) System, March 25, 1988.
4. NRC letter to PGE, Trojan Technical Specifications - Component Cooling Water System, December 15, 1987.
5. PGE letter to NRC, License Change Application 164, February 4, 1988.

Significant Hazards Determination:

The CCW System provides heat removal from safety-related and non-safety-related components during normal operation, shutdown and cooldown of the reactor, and from safety-related components after any accident leading to an emergency shutdown. In addition, the CCW System provides a monitored, intermediate barrier between Reactor Coolant System (RCS) and the heat sink provided by the Service Water System (SWS). The portion of the CCW System that supplies cooling water to Engineered Safety Feature (ESF) equipment, is safety-related and complies with the appropriate regulatory requirements with regard to design, equipment qualification, redundancy and separation.

The CCW System consists of two Seismic Category I flow paths, each of which serves a single train of identical ESF equipment and a common Seismic Category II, non-safety-related flow path. Each CCW train has air-operated interface isolation valves to provide automatic isolation of the Seismic Category I portion of the system from the Seismic Category II portion of the system upon receipt of a safety injection signal (SIS) or a low CCW surge tank level signal. One purpose of this automatic isolation capability is to ensure that the failure of Seismic Category II equipment and components (including piping) does not adversely affect the operation of ESF equipment essential to safe shutdown of the Plant.

During the Nuclear Regulatory Commission's (NRC) August 1986 Safety System Functional Inspection (SSFI), it was determined that in the event of a full area rupture of the Seismic Category II piping due to a seismic event, the automatic interface isolation valves may not close fast enough to prevent blowdown of the safety-related portion of the two CCW trains. This could result in a complete loss of CCW. To preclude this scenario from occurring, the CCW System has been aligned in a split-train configuration with one train isolated from the Seismic Category II flow path during Modes 1 through 4. This configuration ensures a continuous flow of CCW to at least one train of ESF equipment following a seismic event. In addition to aligning the CCW System in a split-train configuration, the spare CCW pump has been maintained operable during Modes 1 through 4 to assure the availability of a CCW loop even with a single-failure concurrent with a seismic event. The Trojan CCW Technical Specifications were amended to ensure the system was operated in the split-train configuration with the spare pump operable until the Seismic Category II portion of the system could be upgraded during the 1989 refueling outage.

License Change Application (LCA) 178, Revision 0, proposes changes to Trojan Technical Specifications 3/4.7.3.1 and 3/4.7.3.2 to revert from the current split train operating configuration, and operability requirements of the spare pump, to the originally analyzed and licensed operating configuration for the Component Cooling Water (CCW) System. Interim operation in the split-train configuration was necessary to provide a level of protection and safety, comparable to that intended by the original Technical Specifications until seismic modifications could be made to the Seismic Category II portion of the system. These modifications were completed during the 1989 refueling outage.

In accordance with 10 CFR 50.92, LCA 178 is judged to involve no significant hazards considerations based on the following:

1. The changes proposed in this LCA do not significantly increase the probability or consequences of an accident previously evaluated.

The current Technical Specifications require the CCW System to be operated in a split-train configuration with the train isolation valves for one train in the closed position. The purpose of operation in the split-train configuration is to preclude a loss of all CCW due to a seismically induced full-area rupture in the Seismic Category II portion of the system. Operation with the one train isolated requires that both train's CCW pumps be operating to provide cooling flows to the reactor coolant pumps and other train separated equipment required during normal operation. This equipment includes the containment air coolers, the letdown heat exchanger, and the seal water heat exchanger.

The proposed changes to the CCW System Technical Specifications will allow the system to be operated in the originally analyzed and licensed configuration. The original configuration allows the safety-related trains of CCW to be cross connected with one CCW pump serving both safety-related flow paths and the common non-safety-related flowpath.

The change to the original operating configuration will not affect the previously analyzed accidents. The purpose of operating the CCW System in a split-train configuration was to preclude the loss of all CCW due to a rupture in the Seismic Category II portion of the system. Seismic upgrade of the Seismic Category II piping and components during the 1989 Trojan refueling outage eliminates the requirement to postulate the seismically induced full-area rupture.

The proposed changes will also allow single pump operation reducing unnecessary wear and tear on the redundant train's pump, and will return the system to fully redundant status by eliminating consequential failures associated with the postulated pipe rupture.

In summary, the proposed changes provide for returning the system to its originally analyzed and licensed operating configuration, and fully redundant status. The CCW System will continue to meet its design basis function of supplying cooling water to the required Plant components during normal Plant operation and postulated design basis accidents. Therefore, the probability or consequences of previously evaluated accidents are not increased.

2. The changes proposed in the LCA do not create the possibility of a new or different kind of accident from any previously evaluated.

CCW System operation in a split-train configuration, and maintaining the spare CCW pump operable, as required by the current Technical Specifications was necessary to protect the system and Plant from the consequences of a full-area rupture in the Seismic Category II system piping. Seismic upgrade of the Seismic Category II portion of the CCW System completed during the 1989 refueling outage precludes the need for the protection afforded by split-train operation as the postulated full-area rupture will no longer be a credible event.

The proposed changes to the Technical Specifications will allow the CCW System to be operated as intended in the originally analyzed and licensed configuration. The design basis function of the CCW System will remain unchanged and there will be a greater assurance of CCW availability as a result of the seismic upgrade.

In summary, the proposed changes do not affect the system design basis and allow system operation to return to its originally analyzed and licensed configuration. The seismic upgrade will provide greater assurance of CCW availability following a seismic event. Therefore, the changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. This proposed LCA does not involve a significant reduction in a margin of safety.

Changing the operation of the CCW System from the current split-train operating configuration to the originally analyzed and licensed configuration does not impact the design basis or function of the system or its individual components. No margins of safety are reduced.

In the March 6, 1986 Federal Register, the NRC provided certain examples of amendments that are considered not likely to involve a significant hazards consideration. Examples 5 and 9 from that list state:

"Upon satisfactory completion of construction in connection with an operating facility, a relief granted from an operating restriction that was imposed because the construction was not yet completed satisfactorily. This is intended to involve only restrictions where it is justified that construction has been completed satisfactorily."

"A repair or replacement of a major component or system important to safety, if the following conditions are met:

- "(a) The repair or replacement process involves practices which have been successfully implemented at least once on similar components or system elsewhere in the nuclear industry or in other industries, and does not involve a significant increase in the probability or consequences of an accident previously evaluated or create the possibility of a new or different kind of accident from any accident previously evaluated, and

- "(b) The repaired or replacement component or system does not result in a significant change in its safety function or a significant reduction in any safety limit (or limiting condition of operation) associated with the component or system."

The above examples are deemed to apply to the proposed changes. Split-train operation of the CCW System represents an operating restriction which is no longer necessary due to completion of the seismic upgrade during the 1989 refueling outage. The changes will allow system operation in accordance with the originally analyzed and licensed configuration, and will not affect the design basis function nor reduce any safety limits. It is therefore PGE's determination that the proposed Technical Specifications do not involve a significant hazards consideration.

SAFETY/ENVIRONMENTAL EVALUATION

Safety and environmental evaluations were performed as required by 10 CFR 50 and the Trojan Technical Specifications. This review determined that an unreviewed safety question does not exist since Plant operations remain consistent with the FSAR, adequate surveillance is maintained, and there is no conceivable impact upon the environment.