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

Operating License NPF-1
Docket 50-344
License Change Application 203

This License Change Application requests modifications to Operating License NPF-1 for the Trojan Nuclear Plant to change Trojan Technical Specification Table 3.6-1, "Containment Isolation Valves".

PORTLAND GENERAL ELECTRIC COMPANY

By T D Walt

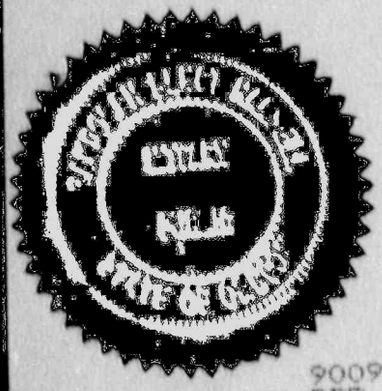
T. D. Walt
General Manager
Technical Functions

Subscribed and sworn to before me this 18th day of September 1990.

Randolph Blair Arnold

Notary Public of Oregon

My Commission Expires: March 22, 1994



Reason for Change and Justification of Emergency Circumstances

The original Trojan Technical Specification (TTS) 3/4.6.3, "Containment Isolation Valves", included a requirement in the surveillance section for valve cycling at least once per 92 days. The column "Testable During Plant Operation" of TTS Table 3.6-1 delineated which of the valves could be so tested while the Plant was operating. On June 10, 1982, Paragraph 4.6.3.1.1.a was removed from the Technical Specification by Amendment 74 and was replaced by a requirement to perform the testing in accordance with TTS 4.0.5 [i.e., the Inservice Testing (IST) Program]. Since the IST program delineates which valves can be tested at power and which cannot, the "Testable During Plant Operation" column should have been deleted as part of Amendment 74 as well, but was not.

As discussed with the Nuclear Regulatory Commission (NRC) staff on September 7, 1990, it has been recognized that a conflict exists in that TTS 4.7.1.2.1, "Auxiliary Feedwater System", requires periodic testing of the auxiliary feedwater (AFW) turbine-driven pump, but Table 3.6-1 prohibits cycling of the steam supply valves to the turbine during Plant operation. To alleviate the conflict, it is requested in accordance with Title 10 of the Code of Federal Regulations, Part 50, Paragraph 91(a)(5) [10 CFR 50.91(a)(5)], "Emergency Circumstances", that this License Change Application (LCA) be processed on an emergency basis to support the next scheduled surveillance test. The AFW turbine-driven pump, which is on increased surveillance frequency, is scheduled for testing October 1, 1990. The test date can be extended further under the provisions of TTS 4.0.2, but this is not desirable because of the pump's increased monitoring status. A functional problem affecting the AFW turbine-driven pump requiring the pump to be run within 72 hours in order to return it to service could arise at anytime.

The TTS conflict has existed since the TTSs were issued. On September 6, 1990, it was determined that strict compliance with both Table 3.6-1 and TTS 4.7.1.2.1 could not be achieved. The NRC was contacted the following morning and later told that an LCA would be submitted. The time period for resolution of the conflict is as discussed above. Technical justification to show that the Plant can be safely operated under the existing conditions is provided under "Determination of Significant Hazards Consideration". Cycling the AFW turbine-driven pump steam supply valves improves their reliability because the air-driven operators are of a lubricated cylinder design. The Trojan Plant is presently operating in Mode 1, "Power Operation", but would have to be shut down if the AFW turbine-driven pump could not be tested as required by TTS 4.7.1.2.1.

The stroking of the AFW turbine-driven pump steam supply valves that has occurred while conducting past pump tests during Plant operation, will be the subject of a forthcoming licensee event report. The licensee event report will also include reporting that under the IST program, the safety injection (SI) pump discharge valves outside containment have been tested during Plant operation, which is also prohibited by Table 3.6-1.

This LCA makes the necessary changes to resolve the conflict of testing the AFW turbine-driven pump, to allow continued inservice testing of the SI pump discharge valves outside Containment, and to correct errors in valve numbers and descriptions contained in Table 3.6-1. The changes to valve numbers include changing the AFW turbine-driven steam supply valves from motor-driven to air-operated. This change resulted from a design change to the AFW turbine-driven pump to make its operation independent of alternating current power.

Description of Change

1. The column of TTS Table 3.6-1 entitled "Testable During Plant Operation" is deleted in its entirety.

2. The footnote which reads, "May be opened on an intermittent basis under administrative control", is applied to the SI pump discharge valves outside Containment (MO-8802A and MO-8802B).

3. The numbers of steam generator (SG) blowdown isolation valves outside Containment are corrected as follows: SG A MO-2808 becomes MO-2810, SG B MO-2810 becomes MO-2813, and SG D MO-2813 becomes MO-2808.

4. The descriptions of Containment atmosphere sample valves are corrected as follows: MO-5671 supply becomes return, MO-5673 return becomes supply, and MO-5663 return becomes supply.

5. The numbers of component cooling water (CCW) Train B valves are corrected as follows: supply valve MO-3346 becomes MO-3290 and discharge valve MO-3290 becomes MO-3346.

6. The numbers of main steam to AFW pump turbine-driven supply valves are corrected as follows: MO-2218 becomes CV-1451, MO-2228 becomes CV-1452, MO-2238 becomes CV-1453, and MO-2248 becomes CV-1454.

7. The numbers of refueling cavity skimming isolation valves are corrected as follows: inside Containment valve SF063 becomes SF062 and outside Containment valve SF062 becomes SF063.

Determination of Significant Hazards Consideration

In accordance with the requirements of 10 CFR 50.92, "Issuance of Amendment", this LCA is judged to involve no significant hazards based upon the following information:

1. Does the proposed license change involve a significant increase in the probability or consequences of an accident?

   The removal of the column entitled "Testable During Plant Operation" from Table 3.6-1 does not reduce the effectiveness of the TTS.

TTS 4.0.5 requires the performance of testing under the IST program, which delineates which valves can be tested at power and which cannot. The IST program is controlled as a licensing document in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments". In addition, there are no proposed changes to the Limiting Conditions for Operation (LCOs) and Surveillance Requirements which affect operability of the isolation valves. Accordingly, there will be no effect on previously analyzed accidents.

The immediate effect of removing the column entitled "Testable During Plant Operation" will be that the AFW turbine-driven pump steam supply valves and the SI pump discharge valves outside Containment will continue to be tested during Plant operation, but that testing will now be in compliance with the TTS. The AFW turbine-driven pump steam supply valves have been required to be cycled during Plant operation throughout Plant life in satisfying testing requirements of TTS 4.7.1.2.1. Testing of the valves concurrent with the pump test does not increase the probability or consequences of an accident since running the pump test places the valves in their accident position (open) and cycling valves closed for valve testing does not inhibit pump operation. The SI pump discharge valves outside Containment can be tested during Plant operation without an increase in the probability or consequences of an accident by establishing an appropriate system lineup prior to cycling the valves. The lineup requires entry into the 72-hour action statement of TTS 3.5.2, "ECCS Subsystems". It includes closing the discharge cross-connect valve (MO-8821A/B) to ensure the opposite train pump will not inject into both the hot and cold legs simultaneously and placing the tested train pump in pull-to-lock to ensure pump runout would not occur if the pump started while the discharge valve is open.

The testing of other valves listed in Table 3.6-1 with a "no" designation in the "Testable During Plant Operation" column will be controlled in accordance with the IST program. There will not be a significant increase in the probability or consequences of an accident from removing the "no" designation in TTS Table 3.6-1 because of existing Technical Specification limitations upon the valves or the equipment they support or because of clearly undesirable circumstances which would result from cycling the valves during Plant operation. The reasons and other controls for not testing these valves during Plant operation are discussed below.

a. MO-8112 Reactor Coolant Pump Seal Water Return - Inside
   MO-8100 Reactor Coolant Pump Seal Water Return - Outside

   Isolation of reactor coolant pump seal water to operating pumps could be detrimental to pump operation, and may require tripping of the pumps and therefore result in an automatic trip or a rapid controlled shutdown of the reactor. Since seal water is

necessary for reactor coolant pump operation, control of the operation of these valves is provided in the Technical Specifications by TTS 3/4.4.1, "Reactor Coolant Loops", which specifies requirements for the operation of reactor coolant pumps in Operational Modes 1 through 5.

b. CV-4471 Instrument Air Supply - Outside

Isolation of instrument air to Containment during Plant operation is clearly undesirable because it removes the air supply to air-operated valves and requires the reactor to be tripped if critical valve positions become uncertain. The Technical Specifications for systems containing air-operated valves would govern this valve as it would be part of the required support equipment for those systems.

c. MO-3291 Component Cooling Water Train "A" Supply - Outside
MO-3292 Component Cooling Water Train "A" Discharge - Outside
MO-3290 Component Cooling Water Train "B" Supply - Outside
MO-3346 Component Cooling Water Train "B" Discharge - Outside

Closing these valves isolates CCW cooling medium to the Containment air coolers and cooling to operating reactor coolant pumps, which could be detrimental to pump operation, and may require tripping of pumps and therefore result in an automatic trip or a rapid controlled shutdown of the reactor. Since cooling water is necessary for Containment air cooler and reactor coolant pump operation, control of the operation of these valves is provided in the Technical Specifications by TTS 3/4.6.2.3, "Containment Cooling System", which specifies requirements for the operation of Containment air coolers in Operational Modes 1, 2, and 3, and by TTS 3/4.4 , which specifies requirements for the operation of reactor coolant pumps in Operational Modes 1 through 5.

d. MO-10002 Containment Purge Supply - Inside
CV-10001 Containment Purge Supply - Outside
MO-10003 Containment Purge Exhaust - Inside
CV-10004 Containment Purge Exhaust - Outside

These valves are not to be opened during Plant operation because they are not qualified to shut during the dynamic loads of a design basis loss of coolant accident. As discussed in an NRC letter to Portland General Electric Company (PGE), dated December 4, 1981, changes were made to TTS 4.6.3.1 and a footnote (**) was added to TTS Table 3.6-1 to ensure that these valves shall not be opened by making them inoperable (electric power or air supplies removed from their respective operators) during Modes 1 through 4.

e. CV-2210 Main Steam Power Operated Relief - SG A
CV-2230 Main Steam Power Operated Relief - SG B
CV-2250 Main Steam Power Operated Relief - SG C
CV-2270 Main Steam Power Operated Relief - SG D

Operation of the reliefs during Plant operation is clearly undesirable because of the transient it would effect on the Plant. Furthermore, testing of these valves during Plant operation, with full differential pressure, unnecessarily deteriorates the valve seats, thus increasing the likelihood of seat leakage.

f. MO-8702 Residual Heat Removal Normal Suction - Inside
MO-8701 Residual Heat Removal Normal Suction - Inside

Exercising these valves would require overriding of a safety interlock that ensures these valves are shut when reactor coolant system (RCS) pressure is greater than 600 psig. The additional potential for overpressurization of the residual heat removal (RHR) system and depressurization of the RCS make testing of these valves at normal RCS pressure unsafe. Control of the operation of these valves is provided in the Technical Specifications by TTS 3/4.5.2, which requires verifying that these valves automatically isolate the residual heat removal system from the RCS when the RCS pressure is above 600 psig.

g. CV-8825 Residual Heat Removal Hot Leg Recirculation - Inside

Operation of this valve during Plant operation is not required since this is a passive valve, as defined in American Society of Mechanical Engineers (ASME) Section XI Subparagraph IWV-2100(b), "Passive Valves", which is normally closed and is required to be closed during an accident.

h. MO-8703 Residual Heat Removal Hot Leg Recirculation - Outside
MO-8835 Safety Injection System Discharge Line - Outside (cold leg)
MO-8809A Residual Heat Removal Pump "A" Discharge - Outside
MO-8809B Residual Heat Removal Pump "B" Discharge - Outside

Cycling MO-8703 open renders both trains of RHR inoperable, requiring entry into TTS 3.0.3, since injection flow paths would be open simultaneously to all four cold legs and two hot legs. Cycling MO-8835 shut renders both trains of safety injection to the RCS cold legs inoperable, which requires entry into TTS 3.0.3. Cycling MO-8809A or MO-8809B shut violates the number of RHR cold leg injection flow paths assumed in the safety analysis. Since operation of the valves affects the operability of the emergency core cooling system, control of the operation of these valves is provided in the Technical

Specifications by TTS 3/4.5.2, which requires verifying that these valves are in their initial accident positions and have power removed from their operators in Operational Modes 1, 2, and 3, and by TTS 3/4.5.3.1, which requires verifying that MO-8703, MO-8809A, and MO-8809B are in their initial accident positions and have power removed from their operators in Operational Mode 4.

i. FW079-FW086 Feedwater Line Drains
MS013-MS016 Main Steam Line Drains

Operation of these valves during Plant operation is undesirable except that the main steam line drains are used during Plant startup to clear condensation from the steam lines. TTS Table 3.6-1 applies a footnote (*) to the main steam line drain valves which specifies that they may be opened on an intermittent basis under administrative control.

j.

8047	Pressurizer Relief Tank Nitrogen Supply - Inside
8046	Primary Makeup Water to the Pressurizer Relief Tank - Inside
8180	Reactor Coolant Pump Seal Water Return - Inside
8968	Nitrogen to Accumulators - Inside
MD2011	Demineralized Water to Washdown Station - Inside
CR2035	Reactor Coolant Drain Tank Nitrogen Supply - Inside
SA2005	Service Air - Inside
IA2001	Instrument Air - Inside

Cycling of check valves associated with Containment penetrations does not affect the valves such that they could be prevented from performing their Containment integrity function during an accident. However, testing may be prohibited whenever necessary supporting lineups affect other valves for which cycling during Plant operation is undesirable.

Of the valves listed in Table 3.6-1 with a "yes" designation in the "Testable During Plant Operation" column, the only difference between the column and the IST program is that the SI system discharge valves inside Containment (CV-8881 and CV-8824) and the reactor coolant system dead weight tester manual isolation valves (8090A and 8090B) are designated as testable during Plant operation, but are not tested under the IST program. This is acceptable because they are not required to be tested during Plant operation, and the column title, "Testable During Plant Operation", permits, but does not mandate, testing where a valve listing is designated with a "yes".

The changes to the valve numbers and descriptions are administrative, and have no effect on increasing the probability or consequences of an accident.

2. Does the proposed license change create the possibility of a new or different kind of accident from any accident previously analyzed?

Because removal of the column entitled "Testable During Plant Operation" from Table 3.6-1 does not change the way the Plant is operated, except as discussed below, the potential for an unanalyzed accident is not created. Testing of the AFW turbine-driven pump steam supply valves does not create the possibility of a new or different kind of accident since running the pump test places the valves in their accident position (open) and cycling valves closed for valve testing does not inhibit pump operation. The testing of the SI pump discharge valves does not create the possibility of a new or different kind of accident because precautions are taken to ensure emergency actuation lineups are maintained and to protect the pump in the tested train.

As previously discussed, the testability of valves listed in Table 3.6-1 with a "no" designation in the "Testable During Plant Operation" column is controlled during Plant operation such that the possibility of a new or different kind of accident from any previous analyzed accidents is not created.

As previously discussed, the changes to valve numbers and descriptions are administrative, and have no effect on the accident analyses.

3. Does the proposed license change involve a significant reduction in a margin of safety?

Since the removal of the column entitled "Testable During Plant Operation" from Table 3.6-1 does not affect the consequences of any accident previously analyzed, there is no reduction in the margin of safety. Testing of the AFW turbine-driven pump steam supply valves does not reduce the margin of safety, since opening of these normally closed valves moves them to their accident position. The testing of the SI pump discharge valves during Operational Modes 1, 2, and 3 requires entry into the 72-hour action statement of TTS 3.5.2. The benefit gained in demonstrating the operability of these valves on a more frequent basis than every cold shutdown is greater than the cost of additional system out-of-service time due to quarterly testing and is consistent with inservice testing philosophy.

As previously discussed, the testability of valves listed in Table 3.6-1 with a "no" designation in the "Testable During Plant Operation" column is controlled during Plant operation such that there is not a significant reduction in a safety margin.

The changes to valve numbers and descriptions correct the identification of valves which have already been incorporated into the design, and as such, it is an administrative change with no effect on safety margin.

In the March 6, 1986 Federal Register, the NRC published a list of examples of amendments that are not likely to involve a significant hazards consideration. Examples (i) and (vii) from this list state:

(i) A purely administrative change to technical specifications: for example a change to achieve consistency throughout the technical specifications, correction of an error, or a change in nomenclature.

(vii) A change to conform a license to changes in the regulations, where the license change results in very minor changes to facility operations clearly in keeping with the regulations.

The changes to valve numbers and descriptions are similar to Example (i) The additional testing of valves during operation is similar to Example (vii). Removal of the column entitled "Testable During Plant Operation" from Table 3.6-1 is not enveloped by any example, but this column is not included in NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors".

Safety/Environmental Evaluation

Safety and environmental evaluations were performed as required by 10 CFR 50.59 and the TTS. The review determined that the proposed change does not create an unreviewed safety question, nor does it create an unreviewed environmental question.

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