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 RECIP. NAME RECIPIENT AFFILIATION
 MARTIN, J.B. Region 5, Ofc of the Director

SUBJECT: Requests temporary waiver of compliance re LCO 3.6.3 re
 corrective maint on MFIVs 3JSGBUV0132 & 3JSGBUV0137.

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WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

161-02997-WFC/JST
March 22, 1990

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Docket No. STN 50-530

Mr. John B. Martin
Regional Administrator, Region V
U. S. Nuclear Regulatory Commission
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Dear Mr. Martin:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 3
Request for temporary waiver of compliance with respect
to Limiting Condition for Operation 3.6.3 to Allow
Corrective Maintenance to be Performed on the Main
Feedwater Isolation Valves 3JSGBUV0132 and 3JSGBUV0137
File: 90-056-026

On February 6, 1990, Arizona Public Service Company (APS) received notification from Anchor/Darling Valve Company that some four way valve actuator rebuild kits supplied by Anchor/Darling contained backup rings of an incorrect material, Buna N rather than Viton. Anchor/Darling stated that use of the incorrect material in the hydraulic system four way valves could cause operational problems with the actuators and could adversely affect the safety related function of the main steam (MSIV) and main feedwater (FWIV) isolation valves.

APS initiated an investigation and determined that three of the four MSIV actuators and two of four FWIV actuators in service in Unit 3 contained backup rings of indeterminate material. Replacement of the four way valve in MSIV actuators has been successfully accomplished at power.

With respect to the FWIV actuators, the Action statement of Limiting Condition for Operation 3.6.3 allows four hours to repair a FWIV before having to proceed to Mode 3. It is estimated that approximately twelve hours would be required to replace the actuator four way valve and retest each FWIV. Accordingly, APS respectfully requests that the time limit for restoring valves 3JSGBUV0132 and 3JSGBUV0137 to operable status be extended for each valve on a one time only basis from four hours to twelve hours. This will allow replacement of the four way valve in the FWIV actuators at power and prevent an unnecessary shutdown and consequent transient on the plant.

The safety function of the FWIVs is to "fast close" on a Main Steam Isolation Signal (MSIS). This action prevents containment overpressurization and excessive reactor cooldown following a main steam line break, main feedwater line break, or loss of coolant accident (LOCA). The closing of these valves also precludes any possibility of radioactive release from containment due to a condensate or feedwater line break.

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Mr. John B. Martin
Regional Administrator, Region V
U. S. Nuclear Regulatory Commission
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There are four FWIVs, two in series in each feedwater line. One valve in each line is actuated from "A" train and one valve is actuated from "B" train providing completely redundant functions. In addition, there are two check valves installed in each main feedwater line inside containment in series with the FWIVs which would prevent leakage outside containment following a LOCA. FWIVs 3JSGBUV0132 and 3JSGBUV0137, with indeterminate backup ring materials, are located in separate feedwater lines. In the event an MSIS occurs during performance of the backup ring replacement, the FWIVs in series with 3JSGBUV0132 and 3JSGBUV0137 are actuated from a different safety train and will close. These FWIVs, 3JSGAUV0174 and 3JSGAUV0177, have been verified to contain four way valves with the correct material and will be surveillance tested for operability prior to commencing work on the FWIV in the same line. Maintenance will only be conducted on one FWIV at a time. During this period the FWIV actuator will be disabled and the valve will be maintained in an open condition by unbalanced pressure force on the stem. Extension of the four hour limit would not compromise any safety function performed by the FWIVs, would not cause an unnecessary transient on the unit by forcing shutdown of the unit to perform this replacement, and would remove any question concerning the continued operability of FWIVs 3JSGBUV0132 and 3JSGBUV0137.

This request for a waiver of compliance has been reviewed and approved by the Plant Review Board. A No Significant Hazards Analysis and Environmental Impact Consideration Determination, Attachment A, has been performed and concluded that replacement of the four way valve installed in these feedwater isolation valve actuators while at power, as proposed in this request, is the best option available for assuring continued operability of the valves and safety of operation. A preliminary probabilistic risk assessment of the increase of core damage frequency due to this activity was performed and the results indicate a negligible increase (less than $10E-09$) in probability. Additionally, the study showed a negligible increase (less than $10E-09$) in the probability of the loss of containment integrity due to the proposed maintenance on the FWIVs. Failure to approve this extension would result in a forced outage due to the indeterminate nature of the backup ring material presently installed and cause substantial financial loss without any appreciable benefit in safety.

Sincerely,

James M. Levine for WFC

WFC/JST/jle
Attachment

cc: T. L. Chan (all w/attachment)
S. R. Peterson
D. H. Coe
A. C. Gehr
A. H. Guttermann



Attachment A

Basis for No Significant Hazards Consideration

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed regional waiver of compliance to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed waiver of compliance would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

A discussion of these standards as they relate to this waiver of compliance request follows:

Standard 1: Involve a significant increase in the probability or consequences of an accident previously evaluated.

The extension of the allowed outage time from 4 to 12 hours will provide an opportunity to perform corrective maintenance on FWIVs 3JSGBUV0132 and 3JSGBUV0137 and will provide assurance of continued operability. Failure to grant relief from the 4 hour allowed outage time would result in an unnecessary shutdown and consequent transient on the plant to perform this maintenance. Placing the unit in cold shutdown would result in a transient condition which is the time when safety systems are most likely to be challenged. Extending the allowed outage time would allow the actuator four way valves to be replaced at power without placing the unit in this transient.

This work has already been performed successfully at power on the main steam isolation valves (MSIVs) which have similar actuators. The affected FWIVs are located in different feedwater lines and would be repaired one at a time. There is a redundant valve from a different safety train in series with the affected valve in each main feedwater line. These valves perform the same function, do not contain Buna N backup rings, and will be surveillance tested for operability prior to commencing work. In addition, there are two check valves installed in each main feedwater line inside containment in series with the FWIVs which would prevent leakage outside containment following a LOCA. For containment integrity to be compromised during performance of the four way valve replacement, the plant would have to experience an event causing core damage and providing communication between the steam generator and containment environment or reactor coolant system and the other FWIV in series with the FWIV being repaired fail to close, the two check valves inside containment fail to seal against containment pressure, and the feedwater line outside containment rupture. Thus extension of the allowed time, for one of the feedwater isolation valves may be out of service from 4 to 12 hours, does not constitute a significant increase in the probability or consequences of an accident previously evaluated.



Standard 2: Create the possibility of a new or different kind of accident from any accident previously evaluated.

Increasing the allowed outage time of Limiting Condition for Operation 3.6.3 from 4 to 12 hours on a one time only basis for the purpose of replacing backup rings of questionable material is the safest course of action available. This extension will allow the valve to be verified in a qualified condition and not impose an unnecessary shutdown and consequent transient on the plant. The safety function of the valve will be performed by the redundant valve in the main feedwater line should a main steam isolation signal occur during performance of this corrective maintenance. No possibility of a new or different kind of accident from any previously evaluated is created by the extension of the allowed outage time.

Standard 3: Involve a significant reduction in a margin of safety.

The safety function of the FWIVs is to fast close on a Main Steam Isolation Signal (MSIS). This action prevents containment overpressurization and excessive reactor cooldown following a main steam line break, main feedwater line break, or loss of coolant accident. The closing of these valves also precludes any possibility of radioactive release from containment due to a condensate or feedwater line break. There are four FWIVs, two in series in each feedwater line, one valve in each line is actuated from "A" train and one valve is actuated from "B" train providing completely redundant functions. FWIVs 3JSGBUV0132 and 3JSGBUV0137, with indeterminate backup ring materials, are located in separate feedwater lines. The FWIVs valves in series with 3JSGBUV0132 and 3JSGBUV0137 are actuated from a different safety train and will close in the event an MSIS occurs during performance of the four way valve replacement. These FWIVs, 3JSGAUV0174 and 3JSGAUV0177, have been verified to contain four way valves with the correct material and will be surveillance tested for operability prior to commencing work on the associated FWIVs. Extension of the 4 hour limit would not compromise any safety function performed by the FWIVs and would not cause an unnecessary transient on the unit by forcing shutdown of the unit to perform this replacement. Completion of this corrective maintenance activity will remove any question concerning the continued operability of FWIVs 3JSGBUV0132 and 3JSGBUV0137.

Environmental Impact Consideration Determination

The proposed waiver of compliance request does not involve an unreviewed environmental question because operation of PVNGS Unit 2 in accordance with this change, would not:

1. Result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the staff's testimony to the Atomic Safety and Licensing Board; or
2. Result in a significant change in effluents or power levels; or



3. Result in matters not previously reviewed in the licensing basis for PVNGS which may have a significant environmental impact.

As discussed above, no significant reduction in safety and no new accidents are introduced by this change. This waiver of compliance does not significantly affect effluents (probability increase of less than $10E-09$ of loss of containment integrity) or power levels, and has no environmental impact.

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