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Waterford 3

W3F1-2000-0113  
A4.05  
PR

September 5, 2000

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Subject: Waterford 3 SES  
Docket No. 50-382  
License No. NPF-38  
Correction to the Original Response to  
Generic Letter 88-14

Gentlemen:

This letter is being submitted for information only to provide corrections to Waterford 3's original response to Generic Letter 88-14, "Instrument Air Supply System Problems Affecting Safety-Related Equipment". The errors in the original Generic Letter response were identified and addressed under Waterford 3's Corrective Action Program.

The NRC issued Generic Letter 88-14, "Instrument Air Supply System Problems Affecting Safety-Related Equipment," on August 8, 1988. The purpose of this generic letter was to request that licensees review NUREG-1275, Volume 2, and perform a design and operations verification of their instrument air system. This included verification that the design of the entire instrument air system including air or other pneumatic accumulators is in accordance with its intended function, including verification by test that air-operated safety-related components will perform as expected in accordance with all design-basis events, including a loss of the normal instrument air system. This design verification should include an analysis of current air operated component failure positions to verify they are correct for assuring required safety functions.

Waterford 3 letter W3P89-0028 dated February 21, 1989 provided an evaluation of these requirements to confirm the adequacy of the Waterford 3 instrument air system. With regard to valves with air accumulators, the Waterford 3 response

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identified Feedwater Isolation Valves (FW-184A & B) as valves whose position for an Engineered Safety Features (ESF) actuation signal was different from their loss of instrument air position, but whose accumulators did not require leakage testing. The response stated the reason these accumulators did not need testing was because these valves are redundant to the main feedwater regulating valves (FW-173A & B) and the startup feedwater regulating valves (FW-166A & B) which fail closed on a loss of instrument air. It also indicated the main and startup feedwater regulating valves received a functional test each cold shutdown to verify closure on failure of instrument air.

The discussion provided for the feedwater isolation valves (FW-184A & B) was incorrect in two aspects. The first being that the feedwater isolation valves are redundant to the main and startup feedwater regulating valves. Actually, the main and startup feedwater regulating valves are a backup to the feedwater isolation valves. The feedwater isolation valves are safety related and are credited for containment isolation on a Main Steam Isolation Signal for a feedwater line break or main steam line break. The main and startup feedwater regulating valves are non-safety related and are only credited as a backup to the feedwater isolation valves in the event of a single failure of a feedwater isolation valve. Since the feedwater isolation valves fail as is on loss of instrument air or power, air pressure is required to allow the valve to perform its closing safety function. Therefore the air accumulators associated with the feedwater isolation valves are required to be leak tested. An analysis was performed that established the amount of time these valves are required to remain closed and the allowable leakage rate from these accumulators. Testing of these accumulators is performed every refueling that verifies the required amount of air is available in the feedwater isolation valve accumulators to allow the valves to perform their design basis function on a loss of the normal instrument air system, as requested by the Generic Letter. This required testing was added to STA-001-005 "Leakage Testing of Air and Nitrogen Accumulators for Safety Related Valves" using the calculated leakage rate as acceptance criterion. Procedure OP-901-511 "Instrument Air Malfunction" was also revised to include these valves in the list of valves supplied with air accumulators and the list of air operated valves that fail opposite their ESF positions.

The other aspect of the discussion provided in the original Generic Letter response that was incorrect is the main feedwater regulating valves (FW-173A & B) fail closed on loss of instrument air and they were not identified as having air accumulators. These valves actually fail-as-is on loss of air and they are equipped with air accumulators. Since closure of these valves is credited in the peak containment

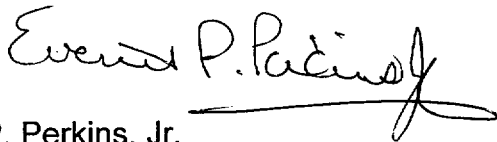
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pressure analysis for a steam line break with a single failure to close of the feedwater isolation valves, sufficient air must be available in the accumulator to allow the regulating valves to close and remain closed. An analysis was performed that established the amount of time these valves are required to remain closed and the allowable leakage rate from these accumulators. Testing of these accumulators is performed every refueling that verifies the required amount of air is available in the main feedwater regulating valve accumulators to allow the valves to perform their design basis function on a loss of the normal instrument air system, as requested by the Generic Letter. This required testing was added to STA-001-005 "Leakage Testing of Air and Nitrogen Accumulators for Safety Related Valves" using the calculated leakage rate as acceptance criterion. Procedure OP-901-511 "Instrument Air Malfunction" was also revised to include these valves in the list of valves supplied with air accumulators and the list of air operated valves that fail opposite their ESF positions.

There are no commitments contained in this submittal. This submittal is provided for information only to update and correct our original submittal and no additional action is necessary. Should you have any questions, please contact Lisa Borel at (504) 739-6403.

Pursuant to 28 U.S.C.A. Section 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed on this 5<sup>th</sup> day of September 2000.

Very truly yours,

A handwritten signature in black ink, appearing to read "E.P. Perkins, Jr.", with a long horizontal flourish extending to the right.

E.P. Perkins, Jr.  
Director  
Nuclear Safety Assurance

EPP/LAB/rtk

cc: E.W. Merschoff, NRC Region IV  
N. Kalyanam, NRC-NRR  
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NRC Resident Inspectors Office