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NG-00-0423

Director, Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Attn.: Document Control Desk  
Mail Station 0-P1-17  
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Op. License No: DPR-49  
Response To Request For Additional Information On Technical  
Specification Change Request Regarding The High Pressure Coolant  
Injection System And Reactor Core Isolation Cooling System  
Isolation Manual Initiation Instrumentation (TAC No. MA5013)

Reference: Letter, NRC to E. Protsch (IES Utilities, Inc.), Request For  
Additional Information On Technical Specification Change Request  
Regarding The High Pressure Coolant Injection System And Reactor  
Core Isolation Cooling System Isolation Manual Initiation  
Instrumentation (TAC No. MA5013), dated February 25, 2000

File: A-107a, A-117

In the Reference letter, the NRC staff requested additional information related to a request to revise the Duane Arnold Energy Center (DAEC) Technical Specifications (TSs) to remove the manual initiation function of the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems isolation instrumentation from TSs Table 3.3.6.1-1. Attached is the DAEC response to this request.

No new commitments are made in this letter.

If you should have any further questions in this matter, please contact Ken Putnam at 319-851-7238.

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This letter is true and accurate to the best of my knowledge and belief.

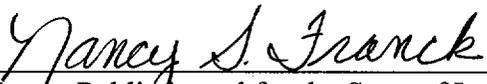
IES UTILITIES INC.

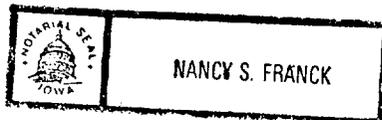
By   
David L. Wilson  
Vice President, Nuclear

State of Iowa  
(County) of Linn

Signed and sworn to before me on this 16<sup>th</sup> day of March, 2000,

by David L. Wilson.

  
Notary Public in and for the State of Iowa



9-28-01

Commission Expires

Attachment: DAEC Response To Request For Additional Information On Technical Specification Change Request Regarding The High Pressure Coolant Injection System And Reactor Core Isolation Cooling System Isolation Manual Initiation Instrumentation

cc: D. Barta  
E. Protsch  
G. VanMiddlesworth  
B. Mozafari (NRC-NRR)  
J. Dyer (Region III)  
NRC Resident Office  
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**DAEC Response To Request For Additional Information On Technical  
Specification Change Request Regarding The High Pressure Coolant Injection  
System And Reactor Core Isolation Cooling System Isolation Manual Initiation  
Instrumentation**

**NRC Question 1:**

Typically, power-operated CIVs can be individually opened and closed by the manual operation of their control switches in the main control room. Clarify whether the switches addressed by your proposed TS change are these typical switches or whether they are additional switches.

**DAEC Response To Question 1:**

The switches to be deleted from TSs are additional switches to the typical switches for the power operated Containment Isolation Valves (CIVs). The pushbutton hand switches addressed by the proposed TS change are HS2242 for HPCI and HS2481 for RCIC. The typical switches for the CIVs will remain intact and maintain all the functions currently designed for the switches including manual and automatic isolation. These typical hand switches are HS2239 for HPCI and HS2401 for RCIC.

**NRC Question 2:**

If they are additional switches, describe their purpose and function. In particular:

- A. Describe whether they open and close the CIVs or just close them.
- B. Describe whether they operate momentarily or “seal in”; that is, when a switch is released, whether the CIV returns to its previous position or stays in its new position, and whether this varies depending on other conditions, such as the presence or absence of an HPCI or RCIC system actuation signal.

**DAEC Response To Question 2:**

- A. For HPCI: The manual initiation pushbutton channel introduces a signal into the HPCI isolation logic that is redundant to the automatic protective instrumentation. The handswitch in question (HS2242) is a pushbutton which uses only one set of contacts. The pushbutton (HS2242) must be depressed with a valid injection signal present for the valve to close. If the pushbutton (HS2242) is released, the CIV for

HPCI will reopen after the valve goes full stroke closed. Depressing the pushbutton (HS2242) will not open the CIV.

For RCIC: The manual initiation pushbutton channel introduces a signal into the RCIC isolation logic that is redundant to the automatic protective instrumentation. The handswitch in question (HS2481) is a pushbutton which uses only one set of contacts. The pushbutton (HS2481) has a “seal in” function. With a valid injection signal present, when the push button is depressed the valve will close. If the pushbutton (HS2481) is released, the CIV for RCIC will continue to go closed and the valve will remain closed. The pushbutton (HS2481) has no effect on the opening of the CIV.

- B. For HPCI: The CIV does not close if the pushbutton is depressed without an injection signal present. With an injection signal, the CIV goes closed as long as the pushbutton remains engaged. The CIV will reopen if the pushbutton is released. If the pushbutton (HS2242) remains depressed, the valve remains closed.

For RCIC: The CIV does not close if the pushbutton is depressed without an injection signal present. With an injection signal present, the valve goes full closed and stays there until the Reset pushbutton is depressed. When the Reset pushbutton is depressed, the valve will go full open, provided an injection signal is present.

**NRC Question 3:**

If the subject switches are additional to the typical control switches, describe whether the CIVs can be closed by the typical switches when a HPCI or RCIC system actuation signal is present, and whether this closure would be momentary or “sealed in.”

**DAEC Response To Question 3:**

For HPCI: All functions of the CIV will remain the same after the proposed revision. The CIV can be closed when an injection signal is present using the typical handswitch (HS2239). The valve will go fully closed momentarily and then will reopen with an injection signal present.

For RCIC: All functions of the CIV will remain the same after the proposed revision. The CIV can be closed when an injection signal is present using the typical handswitch (HS2401). The valve will go fully closed momentarily and then will reopen with an injection signal present.

**NRC Question 4:**

Describe what happens to the CIVs should they receive an automatic closure signal from the control system (e.g., on low steam pressure, indicating a broken steam line) after the HPCI or RCIC system is activated.

**DAEC Response To Question 4:**

For HPCI: All functions of the CIV will remain the same after the proposed revision. The CIV will close when an automatic closure signal is present. The valve “seals in” closed for all automatic isolation signals and needs to be reset, except for the HPCI Steam Supply Low Pressure isolation which does not need to be reset.

For RCIC: All functions of the CIV will remain the same after the proposed revision. The valve will close when an automatic closure signal is received. The valve “seals in” closed for all automatic isolation signals and needs to be reset for the valve to open.