



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

August 2, 2007

MEMORANDUM TO: Steven J. Vias, Senior Reactor Inspector  
Division of Reactor Safety

FROM: William D. Travers, Regional Administrator */RA/*

SUBJECT: SPECIAL INSPECTION CHARTER TO EVALUATE BRUNSWICK,  
UNIT 1, B SERVICE WATER MOTOR OPERATED SUPPLY  
VALVE FAILURE

You have been selected to lead a Special Inspection (SI) to assess the circumstances surrounding the Unit 1, B loop service water motor operated supply valve failure. Your inspection should begin on August 2, 2007. Mike King, Harris Resident Inspector, will be assisting you in this effort. Rudolph Bernhard will provide Senior Reactor Analyst support.

A. Basis

While lining up the Unit 1 B loop of Residual Heat Removal (RHR) to the suppression pool cooling mode on July 26, both (1B & 1D) RHR Service Water pumps tripped on low suction pressure. The licensee declared the "B" loop of RHR inoperable.

The licensee determined that the B loop service water supply valve (motor operated valve 1SW-V105) failed in the closed position. The licensee found that the two valve-to-stem taper pins had dislodged. One of the pins was recovered. The licensee suspects that the second pin is contained in the B RHR heat exchanger. The licensee completed a loose part analysis and following repair to the valve declared the B loop of RHR operable.

This Fisher Controls butterfly valve was the subject of an Information Notice 2005-23, Vibration-Induced Degradation of Butterfly Valves. The IN discussed a condition found at another facility involving dislodged taper pins that connect the valve stem to the valve disc. A vendor bulletin addressed the potential for the taper pins to become dislodged and provided options for securing the taper pins. The licensee initiated an operability determination for other system valves on Units 1 and 2.

In accordance with Management Directive 8.3, "NRC Incident Investigation Program," deterministic and conditional risk criteria were used to evaluate the level of NRC response for this condition. Based on the deterministic criteria that involved possible

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adverse generic implications and events involving safety-related equipment and that the conditional core damage probability for the event met criterion for a SI, Region II determined that the appropriate level of NRC response was the conduct of a SI.

This SI is chartered to identify the circumstances surrounding the valve failures and review the licensee's actions following the issuance of Information Notice 2005-003.

## B. Scope

The inspection is expected to perform data gathering and fact-finding in order to address the following:

1. Develop a complete description of the Unit 1, B loop service water motor operated supply valve failure on July 26, 2007, and a complete sequence of events related to the valve failure.
2. Review licensee documents to determine the licensee's actions taken associated with IN 2005-023, Vibration-Induced Degradation of Butterfly Valves.
3. Review the maintenance program for Fisher Controls butterfly valves at the Brunswick Plant.
4. Review the corrective actions (CAs) and maintenance work order databases to determine the failure history of Fisher Controls butterfly valves at the Brunswick Plant.
5. Review the licensee's root cause analysis and extent of condition. Assess the adequacy of the licensee's implemented and/or planned CAs to address the root cause and the time line for completing the CAs on both units.
6. Assess if any common mode failure modes have been established, whether they are being addressed by the licensee, and what generic implications may exist.
7. Assess the adequacy of the licensee's operability determination for the event on July 26, when both (1B & 1D) RHRSW pumps tripped on low suction pressure.
8. Review industry operating experience (OE) and the licensee's actions in response to any related OE items.
9. Collect data necessary to develop and assess the safety significance of any findings in accordance with IMC 0609, "Significance Determination Process."
10. Identify any potential generic safety issues and make recommendations for appropriate follow-up actions (e.g., Information Notices, Generic Letters, Bulletins).

## C. Guidance

Inspection Procedure 93812, "Special Inspection," provides additional guidance to be used during the conduct of the Special Inspection. Your duties will be as described in

Inspection Procedure 93812. The inspection should emphasize fact-finding in its review of the circumstances surrounding the event. Safety or security concerns identified that are not directly related to the event should be reported to the Region II office for appropriate action.

You will report to the site, conduct an entrance, and begin inspection no later than August 2, 2007. It is anticipated that the on-site portion of the inspection will be completed during the week of August 2, 2007. A status briefing of Region II management will be provided the first day on-site at 4:00 p.m (EDT). A report documenting the results of the inspection should be issued within 30 days of the completion of the inspection.

This Charter may be modified should you develop significant new information that warrants review. Should you have any questions concerning this Charter, contact Eugene Guthrie at (404) 562-4662 or Randall Musser at (404) 562-4603.

Docket Nos.: 50-325 and 50-324  
License Nos.: DPR-71 and DPR-62

cc: W. Kane, OEDO  
S. Campbell, OEDO  
E. Marinos, NRR  
M. Ross-Lee, NRR  
S. Bailey, NRR  
J Shea, RII  
C. Casto, RII  
V. McCree, RII

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ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_

OFFICE	RII:DRP	RII:DRP	RII:DRS	RII:ORA		
SIGNATURE	/RA/	/RA/	/RA by KKennedy for/	/RA/		
NAME	EGuthrie	CCasto	JShea	VMcCree		
DATE	8/2/07	8/2/07	8/2/07	8/2/07		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO