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Rick J. King
Director
Nuclear Safety Assurance

April 14, 2000

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: River Bend Station
Docket No. 50-458
License No. NPF-47
Generic Letter 96-05, "Periodic Verification of Design-Basis
Capability of Safety-Related Motor-Operated Valves"

File Code G9.5, G9.33.4

Reference: NRC Generic Letter 96-05, "Periodic Verification of Design-Basis
Capability of Safety-Related Motor-Operated Valves," 180 Day
Response, RBG-43853, March 17, 1997

RBF1-00-0096
RBG-45321

Ladies and Gentlemen:

On December 15, 1999 the NRC Staff requested additional information (RAI) associated with NRC Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves." The requested information is provided in the attachment.

This letter contains no new commitments. If you have any questions, please contact Mr. B. M. Burmeister of my staff at (225) 381-4148.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick J. King".

RJK/bmb
attachment

A073

Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves."

RBG-45321

RBF1-00-0096

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cc: Mr. David H. Jaffe
U. S. Nuclear Regulatory Commission
M/S OWFN 04D03
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NRC Resident Inspector
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U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
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Question 1:

Describe the actions taken to address the specific long-term aspects of the MOV program at River Bend noted in NRC Inspection Report No. 50-458/96-22. The inspectors noted:

- a) “The licensee had not established a margin for valve factor degradation”

River Bend is a participant in the Joint Owner’s Group (JOG) program on motor operated valve periodic verification. One of the objectives of this program is to develop a basis for addressing the potential degradation in required thrust or torque under differential pressure conditions. In the interim, River Bend calculates the set up margin in accordance with the methodology described in NEDC-32719 Rev. 2 “BWR Owners’ Group Program on Motor Operated Valve (MOV) Periodic Verification”. For torque controlled valves, this margin is the difference between the output thrust at control switch trip and the minimum required thrust, adjusted for uncertainties. For non-torque controlled valves, this margin is the difference between the actuator output capability and the minimum required torque, adjusted for uncertainties. These margins represent the amount that is available to allow for degradation between tests. The JOG program defines low margin valves as those with <5% margin. EOI’s corporate program for periodic verification defines low margin valves as those with <10% margin. Prior to the current refueling outage all but one MOV in the program have greater than 10% setup margin. G33-MOVF053, Reactor Water Clean Up Pump Discharge Inboard Containment Isolation Valve, currently has a set up margin of 2.5%. This valve is scheduled for modification in RF10 to improve its output torque capability.

- b) “Valves E22-MOVF004 (high pressure core spray injection valve) and G33-MOVF039 (reactor water cleanup return containment isolation valve) would be considered for future margin enhancement.”

Inspection Report 50-458/96-22 states “The inspectors noted that only two gate and two globe valves within the Generic Letter 89-10 program had less than 10% margin for valve factor degradation. The two marginal gate valves were E22-MOVF004 and G33-MOVF039. The licensee stated that these valves would be considered for future margin enhancement.” E22-MOVF004 has been modified and re-set as a result of Limitorque Technical Update 98-01 and currently has a set up margin of 14.5%. G33-MOVF039 has a calculated set up margin of 248%. Note; that G33-MOVF039 has a design basis differential pressure of zero, therefore the term in the required thrust equation that contains the valve factor becomes zero, thus valve factor degradation does not affect the minimum required thrust for this valve.

- c) "The licensee's MOV trending program was missing some common valve performance elements that the licensee agreed to consider for addition to the program scope"

River Bend's MOV trending program includes the following parameters:

- Inrush Current
- Motor Running Current
- Thrust at Torque Switch Trip
- Torque at Torque Switch Trip
- Unseating Thrust
- Unseating Torque
- Coefficient of Friction
- MOV Failures and Anomalies

Question 2:

"Is the licensee applying the BWR Owners Group (BWROG) methodology for ranking MOVs based on their safety significance as described in BWROG Topical Report NEDC-32264 Rev. 2 and the NRC safety evaluation dated February 27, 1996? If not, the licensee should describe the methodology used for risk ranking MOVs at River Bend in more detail."

The MOV ranking was done in accordance with Revision 2 of NEDC-32264-A.

Question 3:

"The licensee should describe the plan at River Bend for ensuring adequate ac and dc MOV motor actuator output capability, including consideration of recent guidance in Limitorque Technical Update 98-01 and its Supplement 1."

River Bend's periodic verification program requires periodic MOV static testing to evaluate for trends and degradation of actuator output capability. River Bend trends MOV performance and based on results of the trending review makes recommendations for revision to MOV test and preventative maintenance periodicity. River Bend also monitors industry activities and reports pertaining to MOV capability and takes actions as necessary to address new information as it becomes available. River Bend evaluated the MOVs in the periodic verification program for the affect of Limitorque Technical Update 98-01 and its supplement 1. Based on this evaluation, thirteen MOVs had their torque switch settings increased, ten MOVs were modified and re-set to increase their torque output capability and seven MOVs are scheduled for modification during RF10 to increase their torque output capability.