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Michael A. Krupa  
Director  
Nuclear Safety & Licensing

May 17, 2000

U. S. Nuclear Regulatory Commission  
Attn.: Document Control Desk  
Mail Stop OP1-17  
Washington, DC 20555-0001

Subject: Entergy Operations, Inc.  
Revised Response to Generic Letter 95-07, "Pressure Locking and Thermal Binding of Safety-Related Power-Operated Gate Valves"

Arkansas Nuclear One – Units 1 & 2	Grand Gulf Nuclear Station
Docket Nos. 50-313 & 50-368	Docket No. 50-416
License Nos. DPR-51 & NPF-6	License No. NPF-29

References: 1. Letter from J. D. Vandergrift to USNRC Document Control Desk dated April 30, 1999 (OCAN049910)  
2. Letter from C. R. Hutchinson to USNRC Document Control Desk dated February 13, 1996 (GNRO-96/00011)

CNRO-2000/00014

Gentlemen:

On August 17, 1995, the USNRC issued Generic Letter (GL) 95-07, "Pressure Locking and Thermal Binding of Safety-Related Power Operated Gate Valves." This GL requested that nuclear power plant licensees take actions to ensure that those safety-related power operated gate valves that are susceptible to pressure locking or thermal binding are capable of performing their safety functions. Entergy Operations, Inc. (EOI) provided responses to this request for each of the EOI facilities. After completing susceptibility evaluations, the valves identified as susceptible to the pressure locking phenomenon were dispositioned by (a) implementing corrective actions to modify equipment or procedures or (b) were determined to be acceptable based on evaluations which concluded that the valves would operate during pressure locking conditions. This letter revises the responses provided by Arkansas Nuclear One (ANO)– Units 1 and 2 and Grand Gulf Nuclear Station (GGNS). EOI's GL responses for the Waterford 3 and River Bend facilities have been found acceptable by the staff and no revision to those responses are required.

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In reviewing the Entergy responses, the USNRC staff raised several questions concerning the adequacy of the analysis method used in the acceptability evaluations performed at the ANO and GGNS facilities. EOI used a calculational method, referred to as the Entergy Hub method, to predict the required thrust to open a flexible wedge gate valve subjected to pressure locking. This method was presented at a public workshop as documented in NUREG/CP-0146. EOI has engaged in several discussions with the NRC Staff on the EOI Hub method. While we believe that additional efforts could be expended to technically defend the method, EOI has reconsidered its use and has determined that it would be more expedient to use the NRC accepted pressure locking method developed by Commonwealth Edison (ComEd).

Reference 1 includes a list of valves at the ANO facilities for which the Entergy Hub analysis was used to demonstrate that they would operate during pressure locking conditions. Reference 2 includes a list of valves at GGNS that were determined acceptable based on the Entergy Hub analysis. These valves will be re-evaluated using the ComEd method. EOI plans to apply the ComEd recommended margins (i.e., 20% for stiff valve body assemblies and 40% for flexible body assemblies) but desires to reserve an option to apply more refined margins should they become available through additional industry or private efforts. In the interim, Entergy's current evaluations provide reasonable assurance that the valves will perform their intended safety function.

Therefore, EOI makes the following commitment regarding resolution of GL 95-07 for the ANO and GGNS facilities.

EOI will complete the re-evaluation using the ComEd method. Calculations using the ComEd method are expected to be completed by May, 2001. While we fully expect these calculation results to confirm that there is positive margin between actuator capability and pressure locking thrust requirements for the subject valves, any unacceptable results will be addressed in accordance with our corrective action program. Any modifications, if required, will be completed according to the following schedule:

GGNS: RF12 (Fall, 2002)  
ANO-1: RF17 (Fall, 2002)  
ANO-2: RF15 (Spring, 2002)

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Should you have any further questions, please contact Ron Byrd of Nuclear Safety and Licensing at (601) 368-5792.

To the best of my knowledge and belief, the statements contained in this submittal are true.

Sincerely yours,



MAK/RWB/baa

Subscribed and sworn to before me, a Notary Public in and for Hinds County and the State of Mississippi, this 17<sup>th</sup> day of May, 2000.



Notary Public

My Commission expires

**Notary Public State of Mississippi At Large**  
**My Commission Expires: November 2, 2001**  
**Bonded Thru Holder: State & Southern Inc.**

cc: Mr. C. G. Anderson (ANO)  
Mr. C. M. Dugger (W3)  
Mr. W. A. Eaton (GGNS)  
Mr. R. K. Edington (RBS)  
Mr. J. R. McGaha (ECH)  
Mr. G. J. Taylor (ECH)  
Mr. F. W. Titus (ECH)  
Mr. T. W. Alexion, NRC Project Manager, ANO-2  
Mr. R. L. Bywater, NRC Senior Resident Inspector, ANO  
Ms. J. L. Dixon-Herrity, NRC Senior Resident Inspector, GGNS  
Mr. E. W. Merschoff, NRC Regional Administrator, Region IV  
Mr. M. C. Nolan, NRC Project Manager, ANO-1  
Mr. S. P. Sekerak, NRC Project Manager, GGNS