



Entergy

Entergy Operations, Inc.
1448 S R. 333
Russellville, AR 72802
Tel 501 858 5000

OCAN030501

March 3, 2005

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

Subject: 90-Day Response to Generic Letter 2004-02, "Potential Impact of
Debris Blockage on Emergency Recirculation During Design
Basis Accidents at Pressurized-Water Reactors"
Arkansas Nuclear One – Units 1 and 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6

Dear Sir or Madam:

By letter dated September 13, 2004 (OCNA090401), the NRC requested licensees to provide a response within 90 days of the date of the safety evaluation report (SER) providing the guidance to be utilized for performing the requested actions in the subject generic letter (GL). Entergy will utilize the methodology in Nuclear Energy Institute (NEI) 04-07, *Pressurized-Water Reactor (PWR) Sump Performance Evaluation Methodology, Revision 0* with guidance provided in the NRC SER dated December 6, 2004. This methodology will be used in the analyses to evaluate the susceptibility of the emergency core cooling system (ECCS) and the containment spray system (CSS) recirculation functions for Arkansas Nuclear One (ANO), Units 1 and 2 to the adverse effects of post-accident debris blockage and operation with debris-laden fluids identified in the GL. Entergy plans to utilize NEI 04-07 with the exception of conflicts with our current licensing basis (not associated with the ECCS sump analyses) and the planned exceptions described below. Other exceptions that may be taken in the analyses will be described and justified in the September 1, 2005, required response.

- Additional testing and or evaluation of existing data relative to qualified and unqualified coatings are planned by the Electric Power Research Institute (EPRI) and industry owners' groups. These future test and evaluation results may be used in ANO's debris generation analysis.

1116

- NEI 04-07 does not provide specific guidance for evaluating the chemical precipitation effects. NRC/EPRI tests for chemical precipitation are in progress. The significance of chemical precipitant and the methodology for head loss to account for the chemical precipitants is currently not developed. Entergy plans to use future test results and industry/NRC guidance to account for chemical precipitant effects in the net positive suction head (NPSH) analysis.
- NEI 04-07 does not provide specific guidance for evaluating downstream effects. Entergy plans to evaluate the downstream effects by identifying the downstream components that are susceptible to blockage and the minimum clearance for flow through these components. The long-term performance degradation due to wear of susceptible downstream components and sub-components will also be evaluated. Entergy plans to use industry owners' group guidance and component manufacturer data to evaluate long-term performance degradation due to wear caused by debris-laden fluid.

The analyses based on NEI 04-07 for the current plant configurations, including an NPSH loss analysis, will be completed by September 1, 2005. The evaluation of chemical effects and downstream effects may occur after September 1, 2005, depending on the schedule for testing and availability of industry guidance. The final NPSH loss analysis, if strainer modifications are required, will be completed as part of the sump strainer modification.

Containment walkdowns have been performed for both of the ANO units (ANO-1 in the spring of 2004 and ANO-2 in the fall of 2003) utilizing NEI 02-01, *Condition Assessment Guidelines, Debris Sources Inside PWR Containments*, to support the analysis of susceptibility of the ECCS and CSS recirculation functions to the adverse effects of debris blockage identified in the GL. A dust and lint sampling will be collected for ANO-2 in the spring of 2005. Entergy will use this data to support both unit's analysis.

The new commitments contained in this submittal are summarized in the attachment. Should you have any questions concerning this submittal, please contact Ms. Natalie Mosher at (479) 858-4635.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 3, 2005.

Sincerely,



Dale E. James
Acting Director, Nuclear Safety Assurance

DEJ/nbm

Attachment

cc: Dr. Bruce S. Mallett
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

NRC Senior Resident Inspector
Arkansas Nuclear One
P.O. Box 310
London, AR 72847

U. S. Nuclear Regulatory Commission
Attn: Mr. Tom Alexion
Mail Stop 0-7 D1
Washington, DC 20555-0001

U. S. Nuclear Regulatory Commission
Attn: Mr. Drew Holland
Mail Stop 0-7 D1
Washington, DC 20555-0001

Mr. Bernard R. Bevill
Director, Division of Radiation
Control and Emergency Management
Arkansas Department of Health
4815 West Markham Street, Slot 30
Little Rock, AR 72205-3867

Attachment to

OCAN030501

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check One)		SCHEDULED COMPLETION DATE (If Required)
	ONE- TIME ACTION	CONTINUING COMPLIANCE	
<p>By letter dated September 13, 2004 (OCNA090401), the NRC requested licensees to provide a response within 90 days of the date of the SER providing the guidance to be utilized for performing the requested actions in the GL. Entergy will utilize the methodology in NEI 04-07, <i>PWR Sump Performance Evaluation Methodology, Revision 0</i> with guidance provided in the NRC SER dated December 6, 2004. This methodology will be used in the analyses to evaluate the susceptibility of the ECCS and the CSS recirculation functions for ANO-1 and ANO-2 to the adverse effects of post-accident debris blockage and operation with debris-laden fluids identified in the GL.</p> <p>Other exceptions that may be taken in the analyses will be described and justified in the September 1, 2005, required response.</p> <p>The analyses based on NEI 04-07 for the current plant configurations, including an NPSH loss analysis, will be completed by September 1, 2005.</p>	X		September 1, 2005
<p>The final NPSH loss analysis, if strainer modifications are required, will be completed as part of the sump strainer modification.</p>	X		December 31, 2007
<p>A dust and lint sampling will be collected for ANO-2 in the spring of 2005. Entergy will use this data to support the ANO-1 analysis.</p>	X		June 21, 2005