



Entergy Operations, Inc.
River Bend Station
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RBG-46250

April 7, 2004

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

SUBJECT: River Bend Station, Unit 1
Docket No. 50-458
Supplement to Amendment Request
License Amendment Request (LAR) 2001-43, "High Energy Line
Break Analysis Method"

REFERENCES: (1) Letter RBG-45940 to USNRC from P. D. Hinnenkamp dated
May 14, 2002

(2) Letter RBG-45985 to USNRC from R. J. King dated June 27,
2002

(3) Letter RBG-46124 to USNRC from R. J. King dated July 9,
2003

Dear Sir or Madam:

By letter (Reference 1), Entergy Operations, Inc. (Entergy) proposed a change to the method of analysis for the High Energy Line Breaks in the subcompartments inside and outside of containment. The change submitted for NRC review and approval involved the use of the GOTHIC code for this analysis. Reference (2) was in response to discussions with the NRC during June 2002. Reference (3) was in response to discussions with the NRC during January of 2003.

During January and February of 2004, Entergy and the NRC staff discussed the information provided in the Entergy letter of July 2003. In that letter Entergy provided an additional GOTHIC analysis in response to NRC question number 18. The additional analysis provided results without the drop-liquid conversion option of GOTHIC, and compared them to the effects of this option in the proposed analysis of record for the Reactor Water Cleanup System (RWCU) line break.

ADD

The liquid-drop conversion option was only used in the original submittal for the RWCU Filter/Demineralizer Room 8 inch line break where it provided additional margin (i.e., resulted in lower room pressure) in the room. The results of the reanalysis without the drop-liquid conversion option remained within acceptable limits.

During further conversations with the NRC staff, it was determined that when using the guidance in the Standard Review Plan Section (SRP) 6.2.1.2, for breaks involving highly subcooled fluid, the results could be non-conservative. To address these issues, RBS while performing high energy line break analyses, will assume homogenous equilibrium conditions and 100% water entrainment for all breaks. The exception will be when it is more conservative to not employ these assumptions as in the case of breaks involving fluid which is initially highly subcooled. This analysis will be accomplished by disabling the forced equilibrium (i.e., enabling thermal hydraulic non-equilibrium model) and enabling the drop-liquid conversion model in GOTHIC.

Through the use of these assumptions, additional conservatism with respect to the analysis using SRP guidance is expected (i.e., higher room pressure) for applicable breaks. This will be considered as the "Analysis of Record" for the River Bend Station High Energy Line Break methodology licensing basis

The original no significant hazards considerations included in Reference 1 is not affected by the information contained in this supplemental letter. The commitment stated above is listed in the Attachment to this letter.

If you have any questions or require additional information, please contact Barry Burmeister at 225-381-4148.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 7, 2004.

Sincerely,



R. J. King
Director – Nuclear Safety Assurance

BMB

Attachment: Commitment

cc: U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

NRC Senior Resident Inspector
P. O. Box 1050
St. Francisville, LA 70775

Mr. Michael K. Webb
U.S. Nuclear Regulatory Commission
M/S OWFN 0-7 D1
11555 Rockville Pike
Rockville, MD 20852-2738

Mr. Prosanta Chowdhury
Louisiana Dept. of Environmental Quality
Office of Environmental Compliance
Surveillance Division
Radiological Emergency Planning & Response Unit
P.O. Box 4312
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Attachment

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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	
In performing high energy line break analyses, RBS will assume homogenous equilibrium conditions and 100% water entrainment for all breaks unless it is more conservative to not employ these assumptions as in the case of breaks involving fluid which is initially highly subcooled. This analysis will be accomplished by disabling the forced equilibrium (i.e., enabling thermal hydraulic non-equilibrium model) and enabling the drop-liquid conversion model in GOTHIC.		X	Within 60 days of amendment issuance