Entergy

Entergy Operations, Inc.
River Bend Station
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St. Francisville, LA 70775
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RBG-46279

June 8, 2004

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

SUBJECT: Supplement to Amendment Request for a One-time Extension of the Drywell Bypass Test Interval
River Bend Station, Unit 1
Docket No. 50-458
License No. NPF-47

REFERENCE: 1. License Amendment Request – One Time Extension of the Drywell Bypass Test Interval (RBS LAR 2004-02, RBG-46226, TAC No. MC2071)

Dear Sir or Madam:

By the referenced letter dated February 16, 2004, Entergy Operations, Inc. (Entergy) proposed a change to the River Bend Station, Unit 1 (RBS) Technical Specifications (TSs) to extend the frequency of the Drywell Bypass Test on a one time basis to match that of the Integrated Leak Rate Test.

On May 3, 2004, Entergy and members of your staff held a call to discuss the justification of the change. As a result of the call, three questions were determined to need formal response. Entergy's response is contained in Attachment 1.

There are no technical changes proposed. The original no significant hazards consideration included in Reference 1 is not affected by any information contained in this supplemental letter. There are no new commitments contained in this letter.

If you have any questions or require additional information, please contact Bill Brice at 601-368-5076.

A017

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 8, 2004.

Sincerely,

D. N. Lorfing
Manager-Licensing (Acting)

DNL/WBB

Attachment:
1. Response to Request For Additional Information

cc: Dr. Bruce S. Mallett
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

U.S. Nuclear Regulatory Commission
Attn: Mr. Michael K. Webb MS O-7D1
Washington, DC 20555-0001

Louisiana Department of Environmental Quality
Office of Environmental Compliance
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Surveillance Division
P. O. Box 4312
Baton Rouge, LA 70821-4312

Attachment 1

To

RBG-46279

Response to Request for Additional Information

Responses to NRC Staff Request for Additional Information Regarding Drywell Bypass Leakage Test (DWBT) Interval Extension for River Bend Station (RBS)
(TAC MC2071)

Question 1:

Over the past three years, NRC has issued at least four separate amendments to the River Bend Station (RBS) operating license based in part on risk considerations. These include amendments dated July 3, 2001 and August 16, 2001, allowing removal of the inclined fuel transfer system (IFTS) primary containment isolation blind flange and operation of the IFTS bottom valve when primary containment operability is required, an amendment dated September 25, 2002, extending the allowed outage time (AOT) for a Division I or Division II emergency diesel generator from 72 hours to 14 days, and an amendment dated March 5, 2003, allowing a one-time extension of the containment integrated leak rate test (ILRT) interval to 15 years. Please discuss whether and how each of these changes have been included in the baseline RBS PRA model used to support the present request for a one-time extension of the drywell bypass leakage test (DWBT) interval.

Response 1:

RBS has incorporated the PRA model changes associated with the IFTS and emergency diesel generator (EDG) amendments to the RBS operating license into the baseline PRA model. The ILRT and DWBT extensions do not impact the level 1 model.

RBS IFTS Submittal

The current RBS Level 2 PRA model which was derived from Revision 3 of the Level 1 PRA model, has incorporated the changes proposed in the IFTS submittals. Since the IFTS changes were implemented, the Level 1 PRA model has been updated with two interim revisions (Rev. 3a and Rev. 3b). Both interim models provided enhancements to the Rev. 3 Level 1 PRA model and include the change associated with the IFTS amendment. Therefore, the total CDF is lower than the one for Rev. 3 Level 1 model. If the Level 2 model were updated with the two interim Level 1 models, the LERF value would be expected to be much lower than the value reported in the IFTS submittal. Since updating the Level 2 PRA model is resource intensive, the RBS Level 2 PRA model has not been updated with the interim Level 1 models. However, RBS is planning to develop a simplified LERF model based on the NUREG/CR-6595 methodology.

RBS EDG AOT Extension Submittal

The changes made for the RBS emergency diesel generator (EDG) allowed out-of-service time (AOT) submittal have been included in the RBS Revision 3a Level 1 PRA model.

The primary model change was the incorporation of the procedure changes for alignment of the Div III EDG to the Div I or II bus when immediate recovery of Div I and II AC source is not possible. Other Rev. 3a model changes include the use of convolution method developed for LOOP recovery, the updated the loss of off-site power (LOOP) frequency, the updated off-site

power non-recovery curves, and the manual operation of the Station Blackout (SBO) Standby Service Water (SSW) return valve SWP-AOV599 if needed.

The EDG AOT changes are reflected in the plant unavailability data, which then are reflected in the plant specific PRA data analyses. It should also be noted that the risk increase associated with EDG OOS will be managed under the (a)(4) of the Maintenance Rule and the total unavailable hours of the Div I or Div II EDG would be governed by the maintenance rule unavailability performance criteria.

RBS ILRT Interval Extension Submittal

Since RBS has already received approval for the ILRT interval extension, this submittal did not ask for the ILRT interval extension again. However, the risk increase evaluated is for the test interval extension of both ILRT and DWBT since these two tests are typically performed on the same frequency. Section 4.3 of the DWBT extension request contained the following statement:

> "Although RBS has already received approval of the one-time extension on ILRT interval to 1 in 15 years, the case descriptions in the following sub-sections still denote the test interval of 1 in 10 years as "current" and the test interval of 1 in 15 years as "proposed" for consistency with the GGNS methodology."

Also, Section 4.2-3 of that submittal states that:

> "With the Mark III containment the drywell is completely enclosed by the outer containment. As such, drywell leakage does not leak directly to the environment but is further mitigated by the outer containment leakage barrier."

As such, the analysis evaluated the combined impact of both an extended ILRT and an extended DWBT. The different DWBT and ILRT leakage combinations were presented in Table 4.2-3 of the DWBT extension request.

The methodology used for the DWBT and ILRT interval extension submittals does not impact the Level 1 PRA results. The methodology is very conservative and focuses on estimating the risk changes due to the extended test intervals.

Question 2:

Please describe the major differences in models and assumptions between: Revision 3 of the PRA on which the IFTS change and ILRT extension were based, Revision 3A of the PRA on which the RBS diesel generator AOT extension was based, and Revision 3B of the PRA on which the current DWBT extension request is based. Provide a table summarizing the contribution to total CDF and total LERF by accident class for each of these PRA versions.

Response 2:

The major differences and assumptions for RBS PRA model revision 3, 3a, and 3b are as follows.

Major Differences & Assumptions	**Rev. 3**	**Rev. 3a**	**Rev. 3b**
Total At-Power CDF (Internal events)	9.45E-6 /yr	3.39E-6 /yr	4.15E-6
Total LERF	2.68E-8 /yr	7.38E-9 /yr	7.47E-9
Model Changes	• Modifications to the event trees due to assumption changes; • Updated the LOOP frequency and recovery prob. with industry data; • Added a recovery action for EDG.	• Use of convolution method for off-site power recovery (see note below); • Recovery action to align Div III EDG to Div I or II bus; • Credit manual operation of the Station Blackout (SBO) Standby Service Water (SSW) return valve.	Incorporated some model changes to address RBS Scram on 9/18/2002: • Updated plant specific failure rates for HPCS and RCIC and some key CCF events; • Created a new CRD systems model for more realism; • DC power changes in the model for more accuracy.
Assumptions	Power uprate conditions have been used for the PRA model update. One critical assumption change due to the power uprate conditions is that the containment fails sooner than previously analyzed.	The failed diesel generator could be recovered in 1 hour, 6 hours and 12 hours, especially by aligning Div III EDG to Div I or II bus.	The CRD system is credited for HP injection after HPCS or RCIC late term failure.

Note: The convolution method increases the accuracy of LOOP recovery treatment.

CDF Contributions by Accident Classes:

Accident Sequences	Rev. 3	Rev. 3a	Rev. 3b
LOOP(non-SBO) & SBO	81.8%	62.0%	66.6%
Transients	17.0%	37.0%	33.2%
Others	1.2%	1.0%	0.2%

LERF Contributions by Accident Classes:

CDF Initiator	Rev. 3	Rev. 3a	Rev. 3b (see note)
Short-Term SBO	2.38E-8 /yr	5.36E-09	5.42E-09
Short-Term LOOP (non-SBO)	3.51E-10 /yr	2.47E-11	3.28E-11
Transients	2.66E-9 /yr	1.99E-09	2.02E-09
Total	2.68E-8 /yr	7.38E-09	7.47E-9

Note: Since RBS is planning to develop a LERF model based on NUREG/CR-6595 methodology, no Level 2 update has been performed with the interim Level 1 Rev. 3a and Rev. 3b PRA models. The LERF multipliers developed in RBS EDG AOT submittal (in Attachment 5 to letter No. RBG-45832 RBS letter dated September 24, 2001) are used here to estimate the LERF contribution for consistency. The LERF calculation based on the Rev. 3b Level 1 CDF results are presented below.

CDF Initiator	CDF	Multiplier	LERF
Short-Term SBO	1.36E-07	4.00%	5.42E-09
Short-Term LOOP (non-SBO)	1.73E-08	0.19%	3.28E-11
Transients	1.44E-06	0.14%	2.02E-09
Total LERF			7.47E-9

Question 3:

NRC recently issued amendments to the Grand Gulf and Clinton operating licenses extending the test interval for both the ILRT and the DWBT to 15 years. These amendments were based in part on a determination that the combined effect of both test interval extensions on risk was small. In contrast, Entergy previously requested and received a one-time extension of the containment ILRT interval to 15 years, and is now separately requesting a similar extension for the DWBT interval. To provide insights into cumulative risk impacts, please provide an assessment of the combined effect of the ILRT and DWBT interval extensions on risk (i.e., population dose, LERF, and conditional containment failure probability) similar to that provided in the baseline analyses for the other two Mark III plants.

Response 3:

As discussed in the responses to Question #1, the risk increase evaluated in the previous submittal is for the test interval extension of both ILRT and DWBT. Since the impact of the ILRT and DWBT interval extensions were both evaluated, and the methodology used was different from the PRA models (similar to GGNS and Clinton), consideration of the original RBS submittal is not necessary.