



Entergy

Entergy Operations, Inc.
River Bend Station
5485 U. S. Highway 61
P.O. Box 220
St. Francisville, LA 70775
Tel 504 336 6225
Fax 504 635 5068

Rick J. King
Director
Nuclear Safety & Regulatory Affairs

July 31, 1997

U. S. NRC
Document Control Desk, OP1-17
Washington, DC 20555

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
License Amendment Request (LAR) 96-39, Change to Technical Specifications
3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," 3.6.1.8, "Penetration
Valve Leakage Control System (PVLCS)" and 3.6.1.9, "Main Steam-Positive
Leakage Control System (MS-PLCS)"

File Nos.: G9.5, G9.42

RBF1-97-0263
RBG-44107

Reference: License Amendment Request (LAR) 96-39, Change to Technical
Specification 3.6.1.8, "Penetration Valve Leakage Control System (PVLCS)"
RBG-43358 dated November 6, 1996

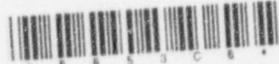
Ladies and Gentlemen:

In License Amendment Request (LAR) 96-39 Entergy applied for an amendment to Facility Operating License No. NPF-47, Appendix A - Technical Specifications, for River Bend Station (RBS). The proposed changes would have permitted an increase in the allowable leak rate for the main steam isolation valves (MSIVs) and deleted both the penetration valve leakage control system (PVLCS) and the main steam positive leakage control system (MS-PLCS). This letter requests the NRC defer processing of certain portions of the referenced license amendment request for River Bend Station.

As proposed, the Technical Specification changes described in LAR 96-39 required a revision to the River Bend Station LOCA dose analysis because of the potential for leakage through the MSIVs and the valves served by the PVLCS. On May 21, 1997, the NRC staff met with representatives from Entergy to discuss the proposed license amendment. During the review process, discussions between EOI and the NRC led EOI to conclude that the treatment of drywell bypass leakage assumptions in the LOCA dose analysis required further study of the consequences and associated sensitivity. This will result in the suspension of the MS-PLCS

000112

9708070080 970731
PDR ADOCK 05000458
P PDR



July 31, 1997

RBG-44107

RBF1-97-0263

Page 2 of 3

efforts pending further review to analyze the methodology for continued pursuit of the MS-PLCS deletion. Therefore, Entergy is requesting that only the change to Technical Specification 3.6.1.8, "Penetration Valve Leakage Control System (PVLCS)," be approved for the upcoming outage and that the remaining changes and issues associated with the MS-PLCS be deferred for further study and evaluation.

Deletion of PVLCS is supported by robust LOCA dose calculation using current design data and regulatory guidance. The analysis previously submitted is revised to account for the treatment of the MS-PLCS and MSIV leakage portion of the LOCA dose calculation in accordance with the current RBS licensing basis. Therefore, no MSIV leakage to the environment is assumed in the calculation. Further details concerning the scope of the changes and additional information are discussed in the attachment.

The changes described above were evaluated for effects on the previously submitted No Significant Hazards Consideration. The LOCA doses resulting from the proposed change are bounded by the previously submitted dose values as well as applicable regulatory limits. Therefore, the original No Significant Hazards Consideration remains bounding.

Implementation of the proposed reduced scope change presents a significant resource savings. Therefore, Entergy has determined that it is in our best interest to pursue this reduced scope submittal so that it can be reviewed and approved on a schedule sufficient to support the seventh refueling outage (RF-7) currently scheduled to commence September 12, 1997.

If you have any additional questions or comments, please contact Mr. T. W. Gates at (504) 381-4866.

Sincerely,

RJK/TWG
attachment

cc: Mr. David L. Wigginton
U. S. Nuclear Regulatory Commission
M/S OWFN 13-H-3
Washington, DC 20555

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

July 31, 1997

RbG-44107

RBF1-97-0263

Page 3 of 3

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

Department of Environmental Quality
Radiation Protection Division
P. O. Box 82135
Baton Rouge, LA 70884-2135
Attn: Administrator

ATTACHMENT

LOCA Dose Model Revisions

River Bend Station requests the NRC review and approve the deletion of the PVLCS system and the associated changes to Technical Specifications (T.S.) T.S. 3.6.1.8 and T.S. Surveillance Requirement (S.R.) 3.6.1.3.8 and 3.6.1.3.9 as described in LAR 96-39 while deferring the deletion of the MS-PLCS system and associated changes to T.S. 3.6.1.9, T.S. S.R. 3.6.1.3.8 and T.S. S.R. 3.6.1.3.10. In addition, the supporting analyses for the PVLCS amendment have been changed for the portions involving the MS-PLCS system. This retains MS-PLCS and MSIV leakage in accordance with the current licensing basis and suspends the MS-PLCS changes that were requested in LAR 96-39.

The resulting reduction in the scope with only the deletion of PVLCS is supported by the LOCA dose calculation. Several changes were made to the RBS LOCA dose calculation model. As you recall, due to the different assumptions and atmospheric dispersion factors, the calculation consists of three cases: 1) PVLCS leakage, 2) ESF liquid leakage, and 3) containment and secondary containment leakage. The changes to these cases from the original submittal are described below:

- The original MSIV leakage assumption was restored.
- Drywell bypass is only assumed for the initial blowdown (0-199 seconds) since this results in a fraction of the blowdown not being scrubbed by the suppression pool. This results in a greater activity in containment which is the primary leakage path. After the initial blowdown, no drywell bypass leakage is assumed. This is conservative since, if drywell bypass were modeled using the actual post-LOCA drywell/containment differential pressure, activity would be drawn from containment into the drywell. Without long-term drywell bypass, more of the initial activity is left in the containment.
- No hydrogen mixing is assumed since this results in greater activity in containment which is the primary leakage path.

The current licensing basis assumptions for MSIV leakage in the LOCA dose calculation will be retained since MS-PLCS will not be removed at this time. Since the MS-PLCS can be actuated prior to the steamline pressure decreasing below the drywell pressure, no MSIV leakage to the environment is assumed consistent with the current licensing basis (see Standard Review Plan Section 15.6.5, Appendix D). The RBS USAR Section 6.7.3.5, "Leakage Protection Evaluation," explains that "in the time period following the postulated LOCA and prior to MS-PLCS initiation, leakage is not a significant contributor to the 2 hour site boundary dose, since conservative allowances for transport delay effects indicate that actual transport times are well in excess of the 20 minute sealing system start time."

RBS SER Section 15.6.5 documents the NRC review of the current RBS licensing basis LOCA Dose calculation. It explains:

The staff's postulated LOCA for the River Bend Station followed methods outlined in the appendices to SRP 15.6.5. In applying these methods, the staff viewed the primary

containment as being effectively surrounded by a secondary containment system capable of intercepting any primary containment leakage and filtering it before its release to the environment. This view was adopted following the conclusion (as discussed in Section 6.5) that the standby gas treatment, fuel building charcoal filtration, and main steamline positive leakage control systems were adequately designed to prevent any leakage from bypassing the secondary containment.

RBS SER Section 6.5.3 goes on to explain:

The four main steamlines are the only direct pathways from the primary containment through which leakage to outside the secondary containment can pass. All other pathways either terminate within the secondary containment or are normally isolated. The MSPLCS (described earlier in this section) acts to prevent leakage via these pathways. As a result, there are no identifiable leakage paths that bypass the secondary containment. The staff concludes that the design of the ESF systems, as described above, is appropriate for the inclusion of their effective operation in the models used to compute dose consequences in Section 15 of this SER.

The revised PVLCS LOCA dose calculation results are summarized below for the purpose of comparison only:

Dose (REM)	Thyroid	Whole Body	Skin
2 Hour EAB			
Containment	1.247E+01	4.122E+00	
PVLCS	1.918E+01	4.797E-01	
Liquid (ESF)	1.172E+00	3.288E-03	
Total (Previous Results)	32.82 (37.53)	4.60 (4.69)	N/A
30 Day LPZ			
Containment	8.977E+00	2.580E+00	
PVLCS	3.730E+01	1.834E-01	
Liquid (ESF)	4.037E+00	3.085E-03	
Total (Previous Results)	50.31 (62.58)	2.77 (2.82)	N/A
30 Day CONTROL ROOM			
Containment	2.451E+00	3.593E-01	7.693E+00
PVLCS	3.006E+00	5.719E-02	1.124E+00
Liquid (ESF)	1.166E-01	3.782E-06	3.875E-05
Total (Previous Results)	5.57 (11.18)	0.42 (0.43)	8.82 (9.15)

Note that the dose values are less than those provided in the original submittal. These dose values are also less than the current licensing basis LOCA dose values and applicable regulatory limits (e.g., 10 CFR 100 and GDC 19). These values confirm that the control room and off-site doses resulting from a design basis LOCA, based on airborne and liquid radionuclide release pathways, support the deletion of PVLCS

Evaluation of the Previous No Significant Hazards Consideration

The proposed revision to the license amendment request was evaluated against each of the criteria of 10 CFR 50.92. That evaluation and its conclusions are bounding for this reduced scope change as discussed below.

- PVLCS is currently credited for post-accident leakage control. Its removal does not involve a change to structures, systems, or components that would affect the probability of an accident previously evaluated. The total off-site and on-site LOCA doses for both the airborne and liquid release pathways resulting from the proposed change are bounded by the previously submitted dose values as well as applicable regulatory limits.
- The removal of PVLCS does not affect any of the remaining systems or change system inter-relationships. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.
- Finally, the proposed amendment to delete PVLCS does not reduce the margin of safety. The PVLCS connections to the process piping will be welded and/or capped closed to assure that primary containment integrity, isolation and leak testing capability are not compromised, therefore eliminating the possibility for a significant reduction in the margin of safety.

In conclusion, the previously submitted evaluation will envelope the revised request because the LOCA doses resulting from the proposed change are bounded by the previously submitted dose values as well as the applicable regulatory limits of 10CFR100 and GDC19. Therefore, the removal of the PVLCS presents no significant hazard to the health and safety of the public. Thus, the requirements of Technical Specification 3.6.1.8 can be deleted.

Proposed Technical Specification Changes

The following are the specific changes to the Technical Specifications requested:

Delete Technical Specification 3.6.1.8

Delete references to PVLCS in SR 3.6.1.3.8, SR 3.6.1.3.9