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Director
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February 20, 1996

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458/96-006-00
File Nos. G9.5, G9.25.1.3

RBG-42381
RBF1-96-0028

Gentlemen:

In accordance with 10CFR50.73, enclosed is the subject report. This Licensee Event Report is submitted voluntarily for the information of the NRC staff.

Sincerely,

JJF/MKB/kvm
enclosure

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cc: U. S. Nuclear Regulatory Commission
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NRC FORM 366 (5-92)		U.S. NUCLEAR REGULATORY COMMISSION				APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/96					
LICENSEE EVENT REPORT (LER)						ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.					
FACILITY NAME (1) River Bend Station						DOCKET NUMBER (2) 05000-458		PAGE (3) 01 of 05			
TITLE (4) Misinterpretation of Containment Isolation-Shutdown Requirements due to Inappropriate Basis Wording											
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
01	18	96	96	006	00	02	20	96	N/A	05000	
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more (11))							DOCKET NUMBER	
POWER LEVEL (10)		000	20.402(b)			20.405(c)			50.73(a)(2)(iv)	73.71(b)	
			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)	73.71(c)	
			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)	X OTHER	
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)	(Specify in abstract below and in text, NRC Form 366A)	
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)	Voluntary	
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)		
LICENSEE CONTACT FOR THIS LER (12)											
NAME David N. Lorfing, Supervisor - Nuclear Licensing						TELEPHONE NUMBER (Include Area Code) 504-381-4157					
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION DATE (15)					
YES (If yes, complete EXPECTED SUBMISSION DATE)			NO								
			X								
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)											
<p>On January 18, 1996, with the plant in Mode 5, the NRC resident inspector questioned the adequacy of STP-000-0702, "Primary Containment Shutdown." This STP implements the requirements of Technical Specification 3.6.1.10, Primary Containment - Shutdown. The STP allowed the plant to be operated in a manner that could be interpreted as inconsistent with the bases as issued during the implementation of ITS. The requirements of this specification were not intended to be made more restrictive and further review concluded that the procedure in question did serve to properly support the requirements of this specification.</p> <p>The root cause of this condition is the failure to have adequately considered the River Bend Station (RBS) operating practices and licensing basis during the development and the issuance of the basis for Specification 3.6.1.10. The basis inappropriately suggests that active single failure considerations apply to the passive containment configuration established at RBS during shutdown conditions. The existing STP is considered to be acceptable and consistent with the requirements of this Technical Specification and published NRC regulatory positions. As a conservative measure, in-progress fuel movement activities were suspended and actions were taken to revise the STP. In the long term, a clarification of the bases for Technical Specification 3.6.1.10 will be pursued. This event is not safety significant.</p>											

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River Bend Station		05000-458	96-005-00	2 OF 5

REPORTED CONDITION

On January 18, 1996, with the plant in Mode 5, the NRC resident inspector questioned the adequacy of STP-000-0702, "Primary Containment Shutdown." This STP implements the requirements of Technical Specification 3.6.1.10, Primary Containment - Shutdown. The impetus for his question was the discussion provided in the bases of the recently issued Improved Technical Specifications (ITS) regarding the applicability of single failure criteria and its implications regarding the necessity for deactivating automatic valves. The requirements of this specification were not intended to be made more restrictive by the ITS and the procedure in question did serve to properly support the requirements of this specification. Since the plant was operated in a manner that could be interpreted as inconsistent with the basis of this Technical Specification, this condition is being reported. However, our investigation of this issue has concluded that the plant was not operated in a manner that violated the Technical Specifications. Nevertheless, River Bend Station (RBS) believes that a discussion of this condition would be of interest to the industry and the NRC and as such this report is being submitted voluntarily.

BACKGROUND

Technical Specification 3.6.1.10 requires that each primary containment penetration required to be closed during accident conditions is maintained in a closed condition. This Technical Specification was part of the original Operating License for RBS. Both the pre-ITS Operating License and the ITS version stipulated that this closed condition be maintained by closed manual valves, blind flanges or deactivated automatic valves secured in their closed positions. The basis section in the pre-ITS specification had no discussion of the regulatory basis of this requirement, and specifically did not address the applicability of single failure criteria or the criteria for categorizing a valve as an automatic valve or as a manual valve for the purposes of meeting the requirements of this Technical Specification. Note that this Technical Specification is not part of the BWR6 Improved Standard Technical Specification as issued by NRC in NUREG 1434, "Standard Technical Specifications General Electric, BWR/6." The changes associated with this requirement were submitted individually by the affected Licensees during the development and issuance of the Improved Technical Specification. The changes associated with this section were processed as either administrative or less restrictive.

The ITS basis for this Technical Specification discusses the applicable accident analysis (i.e., Fuel Handling Event Inside Primary Containment) and its assumptions. Because RBS has a very limited analysis of record for a fuel handling accident inside containment, the single active failure considerations described in the bases section is not applicable. Specifically, neither the containment nor any associated isolation valve performs an active safety function in this event. The basis inappropriately states: "The method of isolation must include the use of at least one isolation barrier that can not be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and deactivated automatic valve, a closed manual valve, a blind flange, or equivalent." The analysis of record stipulates that all required containment isolation valves be manually placed in the safe closed position and no credit is assumed for automatic valve actuations. Since no automatic functions are assumed, none of the power-operated valves used for setting containment integrity during shutdown need to be treated as automatic valves and thus none need to be deactivated. This is consistent with the method used to classify containment isolation valves as either automatic or manual for the purposes of implementing containment

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integrity requirements during Modes 1, 2, and 3 (i.e., this classification is based on the functional requirements for automatic actuation and not the type of actuator associated with a given valve.) The ITS basis was deficient in that it availed itself to interpretations that concluded that the power-operated containment isolation valves should be deenergized to meet this specification.

INVESTIGATION

On January 18, 1996, with the plant in Mode 5, the NRC resident inspector questioned the adequacy of STP-000-0702, "Primary Containment Shutdown," which implements the requirements of Technical Specification 3.6.1.10. The inspector specifically questioned the lack of administrative requirements to deactivate the power-operated containment isolation valves that had been closed to achieve compliance with this Technical Specification. Interviews with Operations personnel concluded that the requirement to deactivate automatic valves was perceived to be applicable only to a valve which had an auto-open function. A spurious actuation of a closed valve with no auto-open circuitry or the mispositioning of a valve by operator error was not considered credible and notably beyond typical requirements that have been applied for shutdown conditions (see examples cited below).

This interpretation is believed to be consistent with current and past regulatory positions. Discussions with the contractor (a previously licensed operator at RBS) who assisted in developing this ITS basis confirmed that his understanding of this issue, as it applied to RBS, was consistent with the interviewed Operations personnel. The contractor further stated that the drafted wording was not intended to alter RBS's implementation of this requirement and this potential was not recognized during the review and final issuance of this basis section.

NRC Region IV has previously reviewed RBS's implementation of this Technical Specification as the result of a past RBS LER, LER 92-009, "Containment Integrity Not Maintained During Fuel Handling," and NRC Violation 92-18-01. In NRC's review of this event, as documented in NRC Inspection Report 92-18, NRC concluded that STP-000-0702 met the requirements of the Technical Specifications. The corrective action for the containment breach discussed in this 1992 event was the closure of an outboard motor-operated valve. In this context, the subject MOV was not treated as an automatic valve that required deactivation to meet the Technical Specification requirement.

River Bend Station's practice of not deactivating closed and fail-safe valves is consistent with other published regulatory positions. For example, NRC Generic Letter 88-17, "Loss of Decay Heat Removal," required actions to be implemented for establishing a closed containment to mitigate a loss of decay heat removal event during mid-loop operations for Pressurized Water Reactors (PWRs). The type of event postulated in the generic letter potentially involves a much more significant source term than that required for a fuel handling event. Generic Letter 88-17 explicitly defines acceptable closure as that provided by a valve or blind flange normally used for containment isolation during power operation. No imposition of spurious actuation or valve mispositioning is suggested.

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NRC has provided additional insight regarding mispositioning issues in Generic Letter 89-10, Supplements 4 and 7, "Consideration of Valve Mispositioning in BWRs [and PWRs]," respectively. These two supplements removed the requirement to consider inadvertent operation of MOVs from the control room from the scope of Generic Letter 89-10. More importantly, these supplements identified selected scenarios where staff positions (i.e., recommendations or regulations) exist which involve valve mispositioning considerations. The scenarios explicitly identified were interfacing-system loss of coolant accidents and fire protection. While the listing of these scenarios was not intended to be all inclusive, the scenarios identified do suggest a philosophy of not invoking spurious or operator mispositioning requirements unless compelling reasons exist, (i.e., the consequences of such action could be severe or a credible failure mechanism exists.)

Further evidence which supports the reasonableness of RBS's past practices with regards to this Technical Specification requirement is NRC's review and approval of analogous Technical Specifications pertaining to containment integrity requirements during shutdown for PWRs. In general, PWR improved Standard Technical Specifications for Refueling Operations - Containment Penetrations, specify that containment penetrations be closed by a manual or automatic isolation valve, blind flange, or equivalent and further allow credit for an OPERABLE automatic valve to achieve a closed containment. These NRC-approved PWR bases do not require the deactivation of any containment isolation valves. River Bend Station's past practices have been more rigorous than the NRC-accepted PWR Technical Specification requirements and consistent with other cited examples in that all of the penetrations required to be closed at RBS were placed in their safe position with no reliance on automatic or operator action. The RBS practice effectively establishes a passive containment isolation system that requires no actions - either automatic or manual for the mitigation of the design basis fuel handling event.

ROOT CAUSE EVALUATION

The root cause of this condition is the failure to have adequately considered the RBS operating practices and licensing basis during the development and the issuance of the basis for specification 3.6.1.10. Specifically, the basis fails to appropriately recognize the passive nature of the established containment configuration and inappropriately suggests that active single failure considerations apply to the RBS configuration during shutdown conditions. This condition is believed to be limited to this single issue due to the limited licensing basis which exists on the RBS fuel handling accident inside containment and the plant-specific nature of this Technical Specification.

CORRECTIVE ACTION

As a conservative measure, in-progress fuel movement activities were suspended and immediate actions were taken to revise STP-000-0702 to include the steps necessary to deactivate the valves that were within the scope of this Technical Specification requirement for establishing containment integrity. The revised STP was utilized to support subsequent fuel handling activities inside containment during the remainder of the outage.

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Based on the above investigation, clarifications will be made to the bases for Technical Specification 3.6.1.10 and appropriate revisions made to the implementing STP.

SAFETY ASSESSMENT

This event is not safety significant. No fuel handling event which could have potentially resulted in offsite consequences has ever occurred at the RBS. The level of protection that had been provided by the RBS administrative controls is comparable to similar practices which are acceptable to NRC and consistent with RBS's licensing basis. The postulated events that deactivating a valve could conceivably protect against are considered incredible. For an operator to misposition one of these valves in response to an event would require taking an action which is not identified in either the Emergency Operating Procedures or the Abnormal Operating Procedure for a fuel handling event, and in addition to performing an action not identified in a procedure, he would have to reposition a valve from an existing safe position to an unsafe position (i.e., errors of both omission and commission). With regard to spurious actuation, no credible mechanism has been postulated for a fuel handling event. Even if a valve were to somehow become mispositioned, the containment does not pressurize during this event and ample time would exist for identifying and implementing remedial actions.