General Information or Other (PAR) Event # 43701

Rep Org: AREVA NP INC.		**Notification Date / Time:** 10/08/2007 15:30	(EDT)
Supplier: AREVA NP INC.		**Event Date / Time:** 08/13/2007	(PDT)
		Last Modification: 10/08/2007	
Region: 4		**Docket #:**	
City: RICHLAND		**Agreement State:** Yes	
County:		**License #:**	
State: WA			
NRC Notified by: JERALD HOLM		**Notifications:** WILLIAM JONES	R4
HQ Ops Officer: MARK ABRAMOVITZ		MARVIN SYKES	R1
Emergency Class: NON EMERGENCY		CAROLYN EVANS	R2
10 CFR Section:		LAURA KOZAK	R3
21.21 UNSPECIFIED PARAGRAPH		VERN HODGE	NRR
		JOHN THORP	NRR

PART 21 REPORT - AREVA MINIMUM CRITICAL POWER RATIO

The licensee provided the following information via facsimile:

"The defect is in the calculation of steady-state core Minimum Critical Power Ratio (MCPR) by the core monitoring system when the SPCB critical power correlation is used for ATRIUM-10 fuel. Specifically, the defect is in the additive constants, a parameter used by the SPCB critical power calculation and based on test data." AREVA notified the affected plants.

Affected Plants:
Browns Ferry, Units 2 & 3
Columbia
Grand Gulf
LaSalle, Units 1 & 2
River Bend
Susquehanna, Units 1 & 2

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IE19
NRR

AREVA

AREVA NP Inc.

FAX

To: NRC Operations Center	Date: 10/8/2007 Time in: 12:24 PM
	Pages to follow: 2
Company: NRC	From: J. S. Holm
	Telephone: 509-375-8142 MB: 36
	☒ Original to be mailed ☐ Via fax only
Receiving fax: 301-816-5151	Sending fax: 509-375-8965
Telephone:	Fax verification: 509-375-8308
Extra Distribution to:	

Message:

Reportable Defect

AREVA NP Inc. An AREVA and Siemens Company
2101 Horn Rapids Road
Richland, WA 99354-5102
Telephone: (509) 375-8100

Operator: S. K. McCoy

Log No.: Time Sent:

Reportable Defect

(i) *Name and address of the individual informing the Commission*

Jerald S. Holm, 2101 Horn Rapids Road, Richland, WA 99352

(ii) *Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.*

The defect is in the calculation of steady-state core Minimum Critical Power Ratio (MCPR) by the core monitoring system when the SPCB critical power correlation is used for ATRIUM-10 fuel. Specifically, the defect is in the additive constants, a parameter used by the SPCB critical power calculation and based on test data.

(iii) *Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.*

AREVA NP

(iv) *Nature of the defect or failure to comply and the safety hazard which is created or could be created by such a defect or failure to comply.*

The MCPR calculated by the core monitoring system is used to confirm that the core is operated within the required Operating Limit MCPR (OLMCPR). The OLMCPR is established to ensure that the Technical Specification safety limit MCPR (SLMCPR) is not violated during anticipated operational occurrences (AOOs). The defect in the SPCB additive constants results in a non-conservative (high) prediction of MCPR. Therefore, the reactor could have been operated in violation of the OLMCPR and the SLMCPR could have been violated if the limiting AOO occurred at that time.

While the MCPR error is relatively small (<0.8%), if the reactors were operated on the operating limit, and the limiting transient were to occur, the technical specification MCPR safety limit would be violated. Therefore, the issue is considered a defect.

(v) *The date on which the information of such a defect or failure to comply was obtained.*

This issue was determined to be a deviation on August 13, 2007. Per PhoneCon 10-8-07

(vi) *In the case of a basic component which fails to comply, the number and the location of all such components in use at, supplied for, or being supplied for one or more facilities or activities subject to the regulations in this part.*

The defect exists in the calculation of steady-state core Minimum Critical Power Ratio (MCPR) by the core monitoring system for the following reactors:

Browns Ferry Unit 2 and Unit 3
Columbia
Grand Gulf
LaSalle Unit 1 and Unit 2
River Bend
Susquehanna Unit 1 and Unit 2

(vii) *The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for this action; and the length of time that has been or will be taken to complete the action.*

AREVA provided recommended compensatory actions to all affected plants. The compensatory actions involve restricting allowed MCPR to compensate for the non-conservative prediction of steady-state MCPR by the core monitoring system.

The compensatory actions will be required until revised additive constants are developed and the input decks to the core monitoring system are updated.

(viii) *Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.*

See (vii) above.