

CATEGORY 1

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AUTH. NAME . AUTHOR AFFILIATION
RICKARD, I.C. ABB Combustion Engineering Nuclear Fuel (formerly Combustio
RICKARD, I.C. ABB Atom, Inc. (formerly ASEA Atom, Inc.)
RECIP. NAME RECIPIENT AFFILIATION
Records Management Branch (Document Control Desk)

SUBJECT: Part 21 rept re XL-S96 CPR correlation for SVEA-96 fuel.
Defect applies only to WNP-2, during Cycles 12, 13 & 14
operation. Evaluations of defect performed by ABB-CE.

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January 15, 1999
LD-99-003

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

**Subject: Report of a Defect Pursuant to 10 CFR 21 Concerning the
XL-S96 CPR Correlation for SVEA-96 Fuel**

The purpose of this letter is to notify the Nuclear Regulatory Commission of a defect as defined in 10 CFR 21, "Reporting of Defects and Noncompliance." The defect concerns the XL-S96 Critical Power Ratio (CPR) correlation for ABB SVEA-96 fuel assemblies for Boiling Water Reactors (BWRs). Specifically, the defect concerns the XL-S96 CPR correlation, which is based solely on a cosine axial power shape. The defect could lead to non-conservative Operating Limit MCPRs and monitored CPRs for top-peaked axial power shapes.

The Enclosure summarizes the evaluation performed by ABB Combustion Engineering (ABB-CE). If you have any questions, please feel free to contact me or Mr. Virgil Paggen of my staff at (860) 285-4700.

Very truly yours,
COMBUSTION ENGINEERING, INC.

Ian C. Rickard, Director
Nuclear Licensing

Enclosure: As stated

cc: M. A. Barnoski (ABB-CE)

1-15-94

ABB Combustion Engineering Nuclear Power

Combustion Engineering, Inc.

P.O. Box 500
2000 Day Hill Rd.
Windsor, CT 06095-0500

Telephone (860) 688-1911
Fax (860) 285-5203

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ABB Combustion Engineering Nuclear Power
10 CFR 21 Report of a Defect or Failure to Comply

The following information is provided pursuant to the requirements set forth in 10 CFR 21.21(c)(4):

(i) Name and address of the individuals informing the Commission:

Ian C. Rickard, Director
Nuclear Licensing
Combustion Engineering, Inc.
2000 Day Hill Road
Windsor, CT 06095-0500

(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 activity for which this report is being filed is the use of the XL-S96 CPR correlation in determining Safety and Operating Limit MCPRs and in monitoring of CPRs in SVEA-96 Boiling Water Reactor (BWR) fuel assemblies. This defect applies only to the Washington Public Power Supply System Nuclear Project Unit 2 nuclear power plant during Cycles 12, 13, and 14 operation.

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

Combustion Engineering, Inc.
2000 Day Hill Road
Windsor, CT 06095-0500

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

The defect identified is associated with the use of the XL-S96 CPR correlation in determining Safety and Operating Limit MCPRs and in monitoring of CPRs in SVEA-96 BWR fuel assemblies. For top-peaked axial power shapes, the use of this CPR correlation could yield non-conservative Operating Limit MCPRs or non-conservative monitored CPR values.

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

ABB-CE determined that a defect in the CPR correlation existed on January 15, 1999.

- (vi) *In the case of a basic component which contains a defect or fails to comply, the number and 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 applies only to BWR reload fuel assemblies currently in operation at WNP-2.

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

Evaluations of the defect have been performed by ABB-CE. It has been determined the use of the correlation in determining Safety and Operating Limit MCPRs for Cycles 12, 13, and 14 is acceptable. Furthermore, the use of the correlation in monitoring CPR in Cycles 12 and 13 has been adequate. For Cycle 14, the use of the correlation for monitoring CPR in the core is acceptable prior to 5,600 MWd/MtU. From 5,600 MWd/MtU to the end of Cycle 14 the use of the correlation for monitoring CPR in the core may become non-conservative. The utility currently projects that WNP-2 will reach 5,600 MWd/MTU in February 1999. ABB-CE has provided the Washington Public Power Supply System with recommended corrective actions to ensure that sufficient margin for monitoring the core CPR is maintained.

- (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:*

The Washington Public Power Supply System has been notified of the defect and has been provided with necessary information and recommendations.

01/16/1999

General Information or Other (PAR)

Event # 35273

Rep Org: ABB COMBUSTION ENGINEERING		Notification Date / Time: 01/15/1999 16:37 (EST)	
Supplier: ABB COMBUSTION ENGINEERING		Event Date / Time: 01/15/1999 16:37 (EST)	
		Last Modification: 01/15/1999	
Region: 1		Docket #:	
City: WINDSOR		Agreement State: No	
County:		License #:	
State: CT			
NRC Notified by: VIRGIL PAGGEN		Notifications: BLAIR SPITZBERG	
HQ Ops Officer: STEVE SANDIN		VERN HODGE	
Emergency Class: NON EMERGENCY		R4	
10 CFR Section:		NRR	
21.21		UNSPECIFIED PARAGRAPH	

PART 21 NOTIFICATION RELATED TO THE XL-S96 CPR CORRELATION FOR SVEA-96 FUEL

"The purpose of this letter is to notify the Nuclear Regulatory Commission of a defect as defined in 10 CFR 21, 'Reporting of Defects and Noncompliance.' The defect concerns the XL-S96 Critical Power Ratio (CPR) correlation for ABB SVEA-96 fuel assemblies for Boiling Water Reactors (BWRs). Specifically, the defect concerns the XL-S96 CPR correlation, which is based solely on a cosine axial power shape. The defect could lead to non-conservative Operating Limit MCPRs and monitored CPRs for top-peaked axial power shapes.

"The Enclosure summarizes the evaluation performed by ABB Combustion Engineering (ABB-CE). If you have any questions, please feel free to contact me or Mr. Virgil Paggen of my staff."

This event effects WNP-2 current operating cycle (Cycle 14).



50-397

January 15, 1999
LD-99-003

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

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Very truly yours,
COMBUSTION ENGINEERING, INC.

Virgil Paggen (for)

Ian C. Rickard, Director
Nuclear Licensing

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cc: M. A. Barnoski (ABB-CE)

Tel 9

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