

General Information or Other (PAR)

Event # 43544

<b>Rep Org:</b> WESTINGHOUSE NUCLEAR SERVICES	<b>Notification Date / Time:</b> 08/02/2007 13:24 (EDT)
<b>Supplier:</b> WESTINGHOUSE NUCLEAR SERVICES	<b>Event Date / Time:</b> 08/02/2007 (EDT)
	<b>Last Modification:</b> 08/02/2007
<b>Region:</b> 1	<b>Docket #:</b>
<b>City:</b> PITTSBURG	<b>Agreement State:</b> No
<b>County:</b>	<b>License #:</b>
<b>State:</b> PA	
<b>NRC Notified by:</b> JIM GRESHAM	<b>Notifications:</b> JOHN WHITE R1
<b>HQ Ops Officer:</b> JEFF ROTTON	VERN HODGE (Part 21) NRR
<b>Emergency Class:</b> NON EMERGENCY	
<b>10 CFR Section:</b>	
21.21	UNSPECIFIED PARAGRAPH

#### POTENTIAL DEFECT INVOLVING FAILURE OF WESTINGHOUSE DB-25 CIRCUIT BREAKER

"The following information is provided pursuant to the requirements to 10 CFR 21 to report the potential for the existence of a SUBSTANTIAL SAFETY HAZARD. This issue concerns the failure of a Westinghouse DB-25 circuit breaker to close after a new closing solenoid moving core relay release arm was installed at site. Westinghouse supplied closing solenoid moving core release arms that do not meet the material hardness requirement for safety-related applications at Constellation Nuclear, Robert E Ginna Generating Station.

"Background: The closing solenoid moving core relay release arm for DB-25 circuit breakers is manufactured for and commercially dedicated by Westinghouse for Class 1E applications. After plant personnel installed a new closing solenoid moving core relay release arm on a DB-25 safety-related breaker and placed the breaker in service it failed to close on demand. The investigation of this breaker showed that the closing solenoid moving core relay release arm had interfered with the body of the control relay. While investigating this issue, it was determined that the closing solenoid moving core relay release arm material was from a single batch that did not meet the required material hardness specification. Westinghouse shipped twenty-five closing solenoid moving core relay release arm kits to a single plant from the batch that did not meet the material hardness requirement.

"Evaluation: It is Westinghouse's understanding that the direct cause of the failure is that the closing solenoid moving core relay release arm material was too weak and bent after several closures of the breaker. This changed the mechanical and electrical timing of the circuit breaker, preventing it from closing again.

"Safety Impact: Two of twenty five closing solenoid moving core relay release arms were actually installed on breakers at the plant [Ginna]. Only one breaker was actually placed into service. Had the defective closing solenoid moving core release arms been installed in redundant safety related breakers, this condition could have resulted in a common mode failure and the plant could have been in a condition outside the design basis. If the

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breaker was closed, the breaker would open but would then be unable to close again.

"Corrective Action: Upon discovery of the DB-25 circuit breaker failing to close [at Ginna], plant personnel took corrective actions to remove the defective closing solenoid moving core relay release arms from service. Westinghouse removed the remaining defective closing solenoid moving core relay release arms from stock.

"Plant Applicability: This notification is applicable to Robert E. Ginna Generating Station. Westinghouse has confirmed only one batch of closing solenoid moving core relay release arms was not manufactured to the correct hardness specification. No other plant received closing solenoid moving core relay release arms made from the batch that did not meet the correct material hardness specification from Westinghouse.

"Communications: Robert E. Ginna Generating Station is aware of the issue. Westinghouse will be issuing a Nuclear Safety Advisory Letter (NSAL) documenting this issue.

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## Fax

To: NRC Operations Center  
Fax: 301-816-5151

Date: August 2, 2007  
Pages 3 including cover page

From: Jim Gresham  
Direct fax: 412-374-4011  
Direct Tel: 412-374-4643  
e-mail: greshaja@westinghouse.com

Your ref:  
Our ref:

Subject: LTR-NRC-07-39  
**Notification of the Potential Existence of Defects Pursuant to 10CFR21**



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Our ref: LTR-NRC-07-39

August 2, 2007

**Subject: Notification of the Potential Existence of Defects Pursuant to 10CFR21**

The following information is provided pursuant to the requirements to 10 CFR 21 to report the potential for the existence of a SUBSTANTIAL SAFETY HAZARD. This issue concerns the failure of a Westinghouse DB-25 circuit breaker to close after a new closing solenoid moving core relay release arm was installed at site. Westinghouse supplied closing solenoid moving core release arms that do not meet the material hardness requirement for safety-related applications at Constellation Nuclear, Robert E. Ginna Generating Station.

#### **Background**

The closing solenoid moving core relay release arm for DB-25 circuit breakers is manufactured for and commercially dedicated by Westinghouse for Class 1E applications. After plant personnel installed a new closing solenoid moving core relay release arm on a DB-25 safety-related breaker and placed the breaker in service, it failed to close on demand. The investigation of this breaker showed that the closing solenoid moving core relay release arm had interfered with the body of the control relay. While investigating this issue, it was determined that the closing solenoid moving core relay release arm material was from a single batch that did not meet the required material hardness specification. Westinghouse shipped twenty-five closing solenoid moving core relay release arm kits to a single plant from the batch that did not meet the material hardness requirement.

#### **Evaluation**

It is Westinghouse's understanding that the direct cause of the failure is that the closing solenoid moving core relay release arm material was too weak and bent after several closures of the breaker. This changed the mechanical and electrical timing of the circuit breaker, preventing it from closing again.

#### **Safety Impact**

Two of twenty five closing solenoid moving core relay release arms were actually installed on breakers at the plant. Only one breaker was actually placed into service. Had the defective closing solenoid moving core release arms been installed in redundant safety related breakers, this condition could have resulted in a common mode failure and the plant could have been in a condition outside the design basis. If the breaker was closed, the breaker would open but would then be unable to close again.

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**Corrective Action**

Upon discovery of the DB-25 circuit breaker failing to close, plant personnel took corrective actions to remove the defective closing solenoid moving core relay release arms from service. Westinghouse removed the remaining defective closing solenoid moving core relay release arms from stock.

**Plant Applicability**

This notification is applicable to Robert E. Ginna Generating Station. Westinghouse has confirmed only one batch of closing solenoid moving core relay release arms was not manufactured to the correct hardness specification. No other plant received closing solenoid moving core relay release arms made from the batch that did not meet the correct material hardness specification from Westinghouse.

**Communications**

Robert E. Ginna Generating Station is aware of the issue. Westinghouse will be issuing a Nuclear Safety Advisory Letter (NSAL) documenting this issue.

Very truly yours,



J. A. Gresham, Manager  
Regulatory and Licensing Engineering

cc: J. Thompson (NRC)