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May 2, 2007

SVP-07-020

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

Quad Cities Nuclear Power Station, Unit 1  
Renewed Facility Operating License No. DPR-29  
NRC Docket No. 50-254

Subject: Licensee Event Report 254/06-001, Revision 1, "Failure of the Unit 1B Core Spray Pump Breaker to Operate due to Racking Deficiency"

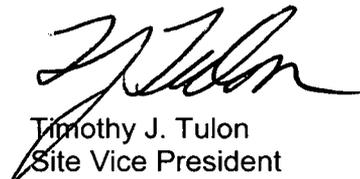
Enclosed is Licensee Event Report (LER) 254/06-001, Revision 1, "Failure of the Unit 1B Core Spray Pump Breaker to Operate due to Racking Deficiency," for Quad Cities Nuclear Power Station.

This report is submitted in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(i)(B), which requires the reporting of any operation or condition prohibited by Technical Specifications, and Part 50.73(a)(2)(v)(D), which requires reporting of any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

This report was revised to include the results of the root cause investigation. There are no regulatory commitments included in this report.

Should you have any questions concerning this report, please contact Mr. W. J. Beck at (309) 227-2800.

Respectfully,



Timothy J. Tulon  
Site Vice President  
Quad Cities Nuclear Power Station

cc: Regional Administrator – NRC Region III  
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

JE22

# LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>1. FACILITY NAME</b> Quad Cities Nuclear Power Station, Unit 1	<b>2. DOCKET NUMBER</b> 05000 254	<b>3. PAGE</b> 1 of 4
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**4. TITLE**  
Failure of the Unit 1B Core Spray Pump Breaker to Operate due to Racking Deficiency

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
01	04	2006	2006	- 01 -	01	05	02	2007	N/A	
									FACILITY NAME	DOCKET NUMBER
									N/A	

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> (Check all that apply)							
<b>10. POWER LEVEL</b>  085	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)				
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)				
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)				
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)				
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)				
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)				
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)				
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER				
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A				

**12. LICENSEE CONTACT FOR THIS LER**

NAME Wally Beck, Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) (309) 227-2800
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	BM	BKR	G080	Y					

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR
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**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On January 4, 2006, during performance of the quarterly Core Spray (CS) system flow rate surveillance, the Unit 1B CS pump breaker did not close to start the CS pump. The 1B CS system was declared inoperable and a 7-day Completion Time was entered in accordance with Technical Specification 3.5.1, Condition B.

The cause of the failure of the breaker to close was poor contact between the breaker's secondary disconnect pins and the secondary disconnect slides of the cubicle. This was due to the breaker not being fully racked into the connect position, and misalignment of the secondary disconnect slides and pins. The breaker was racked out to permit an inspection of the cubicle and breaker, racked back in and verified to operate. Other similar breakers were visually inspected to ensure they were properly racked in.

The safety significance of this event was minimal. Other than for normal maintenance and surveillance, the remaining Emergency Core Cooling Systems were operable.

The breaker racking procedure has been revised to provide additional guidance.

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(If more space is required, use additional copies of NRC Form 366A)(17)

**PLANT AND SYSTEM IDENTIFICATION**

General Electric - Boiling Water Reactor, 2957 Megawatts Thermal Rated Core Power

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

**EVENT IDENTIFICATION**

Failure of the Unit 1B Core Spray Pump Breaker to Operate due to Racking Deficiency

**A. CONDITION PRIOR TO EVENT**

Unit: 1                                      Event Date: January 4, 2006                      Event Time: 1047 hours  
Reactor Mode: 1                              Mode Name: Power Operation                      Power Level: 085%

**B. DESCRIPTION OF EVENT**

On January 4, 2006, during performance of the quarterly Core Spray (CS) [BM] system flow rate surveillance, the Unit 1B CS pump breaker [BKR] did not close to start the CS pump. The 1B CS system was declared inoperable and a 7-day Completion Time was entered in accordance with Technical Specification 3.5.1, Condition B.

During the troubleshooting, before removal of the breaker from the cubicle, the breaker was observed to be flush with the cubicle sides at the bottom, but extending out approximately 5/8 inch at the top of the cubicle. The troubleshooting did not identify any additional anomalies. After completion of troubleshooting, the breaker was then racked into the connect position. The top of the breaker was positioned 1/2 inch further in than originally observed. It was then possible to close the breaker from the Control Room, and as-left resistance readings in the closing circuit between the cubicle and breaker were acceptable.

The 1B CS pump breaker was racked out of the connect position into test position on April 7, 2005, during the performance of a bus undervoltage functional test. The breaker was racked back into the fully connect position following this surveillance, and on April 12, 2005, the breaker was successfully operated. The breaker was also successfully closed and opened on July 6, 2005, and October 6, 2005. There is no evidence that the breaker was racked out of the connect position between April 7, 2005, and January 4, 2006.

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**C. CAUSE OF EVENT**

The cause of the failure of the breaker to close was poor contact between the breaker's secondary disconnect pins and the secondary disconnect slides of the cubicle. There were two issues that caused this condition.

The first is that the breaker was not fully racked into the connect position on April 7, 2005. The root cause of the failure to fully rack in the breaker was that the procedure did not provide clear guidance as to the need for the breaker to be plumb with the cubicle when fully racked in.

The second issue was a misalignment between the breaker secondary disconnect pins and the cubicle secondary disconnect slides, which caused the pins to be off center even when the breaker was fully racked in. The root cause of the misalignment was that the breaker preventative maintenance procedure did not require a check for gradual misalignment over time.

**D. SAFETY ANALYSIS**

The safety significance of this event was minimal. Based on the failure mode described in the Cause of Event section of this report, the 1B CS pump would not have operated during the time since it was last operated successfully, which was October 6, 2005. Therefore, the inoperability was greater than the Technical Specification Completion Time. However, the Main Feedwater, Condensate, High Pressure Coolant Injection, Rector Core Isolation Cooling, Low Pressure Coolant Injection (LPCI) and 1A CS systems were operable during this time frame, other than for normal maintenance and surveillance.

Because there were instances of the 1A and 1B CS systems being inoperable at the same time due to normal maintenance/surveillance on the 1A CS and the breaker issue on 1B CS, this event is reportable in accordance with 10 CFR 50.73(a)(2)(v)(D), condition that could have prohibited fulfillment of a safety function needed to mitigate the consequences of an accident.

Because of the length of time that the 1B CS system was inoperable, and because there were instances of the 1A CS system or the LPCI system being inoperable during this time for maintenance or surveillance, this event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), operation prohibited by TS.

**E. CORRECTIVE ACTIONS**Immediate Actions

The 1B CS pump breaker was racked out to permit an inspection of the cubicle and breaker, racked back in and verified to operate.

All 4KV breakers in the plant similar to the breaker involved in this event were walked down to ensure that they were fully racked in and properly aligned. All

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of the breakers were determined to be nominally plumb and flush with the top of the cubicle sides.

Corrective Actions Completed:

Operator rounds were revised to include a visual inspection of safety related 4KV switchgear to verify that the front faces of the breakers are aligned flush with switchgear.

Station procedure QCOP 6500-07, "RACKING IN A 4160 VOLT HORIZONTAL TYPE AMHG OR G26 CIRCUIT BREAKER," has been revised to provide additional detail to verify Merlin Gerin breakers are properly aligned in the 4KV safety-related switchgear.

Station procedure QCEPM 0200-11, "INSPECTION AND MAINTENANCE OF HORIZONTAL 4KV CUBICLES," was revised to include direction for performing the alignment of the secondary disconnect slides.

**F. PREVIOUS OCCURRENCES**

No incidents during the past two years involving failure of a 4KV breaker to close after being placed in service due to racking deficiencies have been identified.

**G. COMPONENT FAILURE DATA**

The breaker is a Merlin Gerin model AMHG-5-350-12.