

Part 21 (PAR)

Event # 49667

<b>Rep Org:</b> C&D TECHNOLOGIES, INC.		<b>Notification Date / Time:</b> 12/20/2013 11:45 (EST)	
<b>Supplier:</b> C&D TECHNOLOGIES, INC.		<b>Event Date / Time:</b> 10/22/2013 (EST)	
<b>Last Modification:</b> 12/20/2013			
<b>Region:</b> 1	<b>Docket #:</b>		
<b>City:</b> BLUE BELL	<b>Agreement State:</b> Yes		
<b>County:</b>	<b>License #:</b>		
<b>State:</b> PA			
<b>NRC Notified by:</b> CHRISTIAN RHEAULT		<b>Notifications:</b> ANTHONY DIMITRIADIS	R1DO
<b>HQ Ops Officer:</b> DONG HWA PARK		KENNETH RIEMER	R3DO
<b>Emergency Class:</b> NON EMERGENCY		PART 21 GROUP	EMAIL
<b>10 CFR Section:</b>			
21.21(a)(2) INTERIM EVAL OF DEVIATION			

## CRACKING IN KCR-13 STANDBY BATTERY JARS

The following was received via facsimile:

"The purpose of this letter is to provide the NRC a report in general conformity to the requirements of 10CFR Part 21.21 (a)(2). On October 22, 2013, C&D Technologies, Inc. (C&D) was informed by Entergy Nuclear Northeast that a KCR-13 battery installed at the Indian Point Nuclear Energy Center had developed a small crack in the polycarbonate jar material. The jar is a safety related component with the primary function of containing electrolyte. C&D does not believe that significant quantity of electrolyte was lost through this crack, because there was a normal level of electrolyte in the battery. This unit has been replaced, and the unit was sent by Entergy to an outside lab. Lucius Pitkin (LPI) of New York, NY, for analysis. As C&D did not have access to the components of the allegedly defective battery, and a report has not yet been issued by Lucius Pitkin, C&D cannot perform a root cause technical evaluation and affirm whether there is any defect in the component or manufacturing process, or whether the reported condition may have been due to user abuse of product, improper maintenance or other negligence or error. No formal report from Entergy or LPI is expected before the expiration of the 60 day limit from the date C&D was notified of the issue. Thus, C&D is submitting this interim report to the NRC and notifying C&D's customers that use C&D KCR-13 batteries of this interim report. [C&D is also] initiating an action plan to evaluate the reported potential defect and determine whether it could pose a substantial safety hazard for any U.S. licensee using such batteries.

"Concurrent actions underway to complete the evaluation: a) On receipt of the final report by LPI/Indian Point by C&D, C&D shall evaluate the findings and the causes for failure. Maximum time 14 days from receipt of the report. B) In conjunction with the licensees identified in section vi, C&D will recommend maintenance assessment of all KCR-13 batteries at these locations to determine their status, and specifically the presence of any evidence of potential defects via visual examination. For any cells exhibiting the presence of potential defect, C&D shall further

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recommend that they be returned for analysis. Estimated completion date of analysis is thirty (30) days from the receipt of the returned batteries."

KCR-13 batteries are used in Indian Point and Monticello Nuclear Plants.

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**C&D TECHNOLOGIES, INC.**  
**P o w e r   S o l u t i o n s**

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1400 Union Meeting Road  
Blue Bell, PA 19422  
Phone: 215-619-2700

**FACSIMILE**

**December 20, 2013**

**TO: NUCLEAR REGULATORY COMMISSION  
OPERATIONS CENTER**

**FAX NO.: 1-301-816-5151**

**FROM: CHRISTIAN RHEAULT  
PRESIDENT & CEO**

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**TOTAL NUMBER OF PAGES (INCLUDING COVER SHEET): 6**

**PLEASE NOTIFY LINDA BROWN IMMEDIATELY AT (215) 619-7852 IF NOT  
PROPERLY RECEIVED.**

**C&D TECHNOLOGIES, INC.**  
**Power Solutions**

1400 Union Meeting Road  
Blue Bell, PA 19422  
Phone: (215) 619-2700  
Fax: (215) 619-7887

December 20, 2013

VIA FACSIMILE  
Nuclear Regulatory Commission  
Operations Center  
301-816-5151

VIA REGULAR MAIL  
Document Control Desk  
US Nuclear Regulatory Commission  
Washington, DC 20555-0001

VIA OVERNIGHT DELIVERY  
US Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852-2746

Subject: Interim Report – Inability to Complete 10CFR Part 21 Evaluation regarding cracking in KCR-13 Standby Battery Jars

The purpose of this letter is to provide the NRC a report in general conformity to the requirements of 10CFR Part 21.21 (a)(2). On October 22, 2013 C&D Technologies, Inc. ("C&D") was informed by Entergy Nuclear Northeast that a KCR-13 battery installed at the Indian Point Nuclear Energy Center had developed a small crack in the polycarbonate jar material. The jar is a safety related component with the primary function of containing electrolyte. C&D does not believe that significant quantity of electrolyte was lost through this crack, because there was a normal level of electrolyte in the battery. This unit has been replaced, and the unit was sent by Entergy to an outside lab, Lucius Pitkin ("LPI") of New York, NY, for analysis. As C&D did not have access to the components of the allegedly defective battery, and a report has not yet been issued by Lucius Pitkin, C&D cannot perform a root cause technical evaluation and affirm whether there is any defect in the component or manufacturing process, or whether the reported condition may have been due to user abuse of product, improper maintenance or other negligence or error. No formal report from Entergy or LPI is expected before the expiration of the 60 day limit from the date C&D was notified of the issue. Thus, C&D is submitting this interim report to the NRC and notifying C&D's customers that use C&D KCR-13 batteries of this Interim report, and is initiating an action plan to evaluate the reported potential defect and determine whether it could pose a substantial safety hazard for any U.S. licensee using such batteries.

Required information as per 10CFR Part 21.21(d)(4) follows:

- (i) **Name and Address of the individual or individuals informing the Commission**  
Christian Rheault (or Designee)  
President and Chief Executive Officer  
C&D Technologies, Inc.  
1400 Union Meeting Road  
Blue Bell, PA 19422-0858

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- (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.**

KCR-13 Batteries, manufactured in 2005, battery manufacturing date is on the label. Note: C&D has not completed its evaluation of the reported potential defect and whether it could pose a substantial safety hazard at any U.S. licensee using such batteries.

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

C&D Technologies, Inc.  
1400 Union Meeting Road  
Blue Bell, PA 19422-0858

- (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 cracked jar has not been fully evaluated and may or may not indicate a potential defect which could create a substantial safety hazard.

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

October 22, 2013

- (vi) **In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured or being manufactured for one or more facilities or activities subject to the regulations in this Part.**

KCR-13 batteries used at Nuclear Plants in 1E applications made in 2005

Utility	Plant Name	Battery Model	Qty of Batteries
Entergy	Indian Point	KCR-13 NUC	72
Xcel Energy	Monticello	KCR-13 NUC	62

- (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.**

Co-Current Actions underway to complete the evaluation:

- On receipt of the final report by LPI/Indian Point by C&D, C&D shall evaluate the findings and the causes for failure. Maximum time 14 days from receipt of the report.
- In conjunction with the licensees identified in section vi, C&D will recommend maintenance assessment of all KCR-13 batteries at these locations to determine their status, and specifically the presence of any evidence of potential defects via visual examination. For any cells exhibiting the presence of potential defect, C&D shall further recommend that they be returned for analysis. Estimated completion date of analysis is thirty (30) days from the receipt of the returned batteries.

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**(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.**

U.S. Licensees using batteries possibly containing the alleged defect have been notified of the filing of this interim report with recommendations that they examine their batteries for any signs of problems. See attached notification letter.

**(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.**

Not applicable

If you have any questions or wish to discuss this matter or this report, please contact:

Robert Malley  
VP Quality and Process Engineering  
[rmalley@cdtechno.com](mailto:rmalley@cdtechno.com)  
(215) 618-7830

Sincerely,



Christian Rheault  
President and Chief Executive Officer  
C&D Technologies, Inc.

Attachment – C&D Letter to Users of KCR-13 batteries entitled "Possible Problem - KCR-13", dated 12/20/13

Cc: D. Anderson  
J. Miller  
R. Malley  
S. DiMauro  
L. Carson  
J. Anderson

# **C&D TECHNOLOGIES, INC.**

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## **Power Solutions**

1400 Union Meeting Road  
Blue Bell, PA 19422  
Phone: (215) 775-1314  
Fax: (215) 619-7887

December 20, 2013

Customer Name and Address

Ref: Possible Problem with KCR-13 Batteries

Dear Sir/Madam:

C&D Technologies, Inc. ("C&D") is filing an interim report with the NRC for an incident that occurred with a safety related product at Indian Point Energy Center.

On October 22, 2013 Entergy Nuclear Northeast informed C&D that a KCR-13 battery installed at the Indian Point Nuclear Energy Center had developed a small crack in the polycarbonate jar material. The immediate response by Entergy was to replace the affected battery with an on-site spare. This battery was not returned to C&D for analysis, but was rather sent by Entergy to Lucius Pitkin, Inc., of New York, NY for analysis. Representatives from C&D and ESA Consulting Engineers were present at Lucius Pitkin for the initial teardown of the affected battery. C&D has not yet received a completed report from Lucius Pitkin, and does not expect to receive this report within the 60 day reporting period that started on 10/22/13. C&D does not have access to the battery, and cannot perform a root cause technical evaluation and affirm whether there is any defect in the component or manufacturing process, or whether the reported condition may have been due to user abuse of product, improper maintenance or other negligence or error. This Interim report contains the information C&D has to date from C&D's participation at the battery teardown, and from C&D's production and warranty records.

**Appearance:** The KCR-13 battery from Indian Point was manufactured in 2005, and had been in the field for eight years. It had a crack in the middle of the end of the jar, extending into the high level line of the battery. The appearance is shown on Figure 1.



Figure 1

Based on the information available to date, C&D does not believe significant amounts of electrolyte had escaped from the battery due to this crack, as evidenced by the electrolyte level being above the low level line at the time of teardown. The safety function of the jar is to contain electrolyte. The risk identified is that the crack would extend past the low level line, allowing



electrolyte to escape and affecting the ability of the battery to discharge to its full capacity when required.

**Field History:** C&D has reviewed the following information:

- Warranty claims for all KCR products (nuclear safety related and commercial) dating back to January 2000.
- Customer complaints for all customers, since the database was established in 2009.
- Sales records for nuclear safety related and for commercial KCR products since 1997

No claims or complaints have been made for cracked jars in any nuclear safety related KCR product using polycarbonate materials. Since 1997, C&D's sales records indicate 7,703 KCR cells of all sizes, and 1,373 KCR-13 cells have been produced for nuclear safety related applications. Approximately 60,000 cells have been produced for non-safety related applications. Of these two batteries have been reported to have cracks in the field. If confirmed, the Indian Point battery would represent a failure rate of 0.013% for nuclear safety related product, and 0.004% for KCR's in all applications.

**Recommended Action:** C&D recommends that users of KCR-13 cells in safety related applications inspect their battery cells for cracks in the clear polycarbonate jar material. Any batteries found with cracks should be replaced, and the cells returned to C&D for analysis. Requirements for visual inspection are described in the C&D I&O manual for flooded products, available on the C&D website.

**Further Reporting:** C&D is filing this interim report while the testing arranged by Entergy/Indian Point is on-going. On completion of the final report, C&D will provide a final evaluation of the issue and file reports as required by regulation, and will keep users of KCR products informed of the findings and recommendations. If additional batteries with cracked jars are found as a result of this report, the units should be returned to C&D for evaluation. A root cause investigation and corrective action plan will be developed and provided to the user.

**C&D Contacts:** Further information on this issue can be obtained from:

Larry Carson – Nuclear Product Manager  
Office Phone 215-775-1314  
Email: lcarson@cdtechno.com

Robert Malley – VP Quality and Process Engineering  
Office Phone 215-619-7830  
Email: rmalley@cdtechno.com

Best Regards,

Larry Carson  
Nuclear Product Manager  
C&D Technologies, Inc.

cc: C. Rheault – President and CEO  
D. Anderson – VP General Counsel  
J. Miller – VP Operations  
R. Malley – VP Quality and Process Engineering  
J. Anderson – VP New Technology and Battery Design  
L. Carson – Nuclear Product Manager  
S. DiMauro – Quality Systems Manager