

Part 21 (PAR)

Event # 51611

<b>Rep Org:</b> QUALTECH NP	<b>Notification Date / Time:</b> 12/18/2015 15:50 (EST)
<b>Supplier:</b> QUALTECH NP	<b>Event Date / Time:</b> 10/06/2015 (EST)
	<b>Last Modification:</b> 12/18/2015
<b>Region:</b> 3	<b>Docket #:</b>
<b>City:</b> CINCINNATI	<b>Agreement State:</b> Yes
<b>County:</b>	<b>License #:</b>
<b>State:</b> OH	
<b>NRC Notified by:</b> MARGIE HOVER	<b>Notifications:</b> LADONNA SUGGS R2DO
<b>HQ Ops Officer:</b> DONG HWA PARK	RAY AZUA R4DO
<b>Emergency Class:</b> NON EMERGENCY	PART 21/50.55 REACTORS EMAIL
<b>10 CFR Section:</b> 21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE	

## POTENTIAL PART 21 INVOLVING A200 SERIES STARTERS

The following is excerpted from a report submitted by QualTech NP, Nuclear Division, Curtiss-Wright Corporation:

"Pacific Gas and Electric (PGE) reported to QTNP [QualTech NP] that they have had eight Cutler Hammer A200 series starter failures since September 15, 2008. The failures would remain in the operated/energized contact state with power removed for some period of time. All starters impacted with this failure were continuously energized. The concern was that if tripped, that the main contacts would not open to protect the motor.

"Testing was performed by Eaton Industrial Controls Division after receiving defective samples from PGE. The Test Report from Eaton was received by QTNP for further review and evaluation. On October 6, 2015 QTNP determined that the Cutler Hammer A200 series starter failures may be reportable and an extent of condition review needed to be done.

"The root cause was a silicon based mold release that remained on the molded parts and would come between the moving (magnet) & fixed armatures. When heated for an extended period of time, this material would become sticky causing anywhere from a minor delay in opening, up to a frozen closed condition.

"Cutler Hammer has determined that the silicone mold release was first introduced into the manufacturing facility in May 2008 due to a shortage of the Zinc Stearate Mold release that was traditionally used. The silicon based mold release was periodically used until October 2012. According to Cutler Hammer, anything made after January 1, 2013 should definitely be silicon mold release free.

"Thus any starters/contactors of the CH A200 series manufactured between May 2008 & December 31, 2012 could have this concern. This failure has only been reported for continuously energized applications. The end user

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should evaluate their applications for this potential failure mechanism."

QTNP has notified North Anna, H. B. Robinson, Diablo Canyon, and Hatch.

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# CURTISS- WRIGHT

QualTech NP, Nuclear Division  
**Curtiss-Wright Corporation**  
 4600 East Tech Drive, Cincinnati, OH 45245  
 T: 513.528.7900 | F: 513.528.4537

## DOCUMENT TRANSMITTAL QTNP2400

CONTRACT  
N/A

P.O. NUMBER  
N/A

TO: **NRC'S DOCUMENT CONTROL DESK**  
 U.S. REGULATORY COMMISSION  
 WASHINGTON, DC 20555-0001

ATTN: HEADQUARTERS OPERATIONS OFFICER  
 hoo.hoc@nrc.gov  
 Phone: (301) 816-5100; Fax: (301) 816-5151

PROJECT: \_\_\_\_\_

ACTION	LEGEND	STATUS
1. For Approval	A. Approved-Released for Construction B. Approved as noted- Resubmit- Construction may proceed C. Not approved- Resubmit D. _____	
2. Final Documents for Record		
3. For Information Only		
4. For Preliminary Use		
5. For Your Use		
6. Revised as Requested		

DOCUMENT/ DRAWING NUMBER	REV.	NO. OF PRINTS/ COPIES	NO. OF SEPIAS	<input type="checkbox"/> DRAWINGS <input type="checkbox"/> SPECIFICATION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> REPORTS <input type="checkbox"/> PROCEDURE	LEGEND
N/A	N/A	1		NOTIFICATION OF 10CFR PART 21 ON EATON/CUTLER HAMMER A200 SERIES STARTERS (& CONTACTORS)		2

REMARKS _____ _____ _____ _____  BY <u>Margie Hover</u> DATE: <u>12/18/2015</u> DOCUMENT CONTROL	PLEASE ACKNOWLEDGE RECEIPT BELOW AND RETURN A SIGNED COPY  RECEIVED BY _____  DATED _____  In order to avoid delays in the project these documents must be returned by: _____
PAGE: 1 of 1	

December 18, 2015

**Subject: Notification of 10CFR Part 21 on Eaton/Cutler Hammer A200 series Starters (& Contactors)**

Pacific Gas and Electric (PGE) reported to QTNP that they have had eight Cutler Hammer A200 series starter failures since September 15, 2008. The failures would remain in the operated/energized contact state with power removed for some period of time. All starters impacted with this failure were continuously energized. The concern was that if tripped, that the main contacts would not open to protect the motor.

Testing was performed by Eaton Industrial Controls Division after receiving defective samples from PGE. The Test Report from Eaton was received by QTNP for further review and evaluation. On October 6, 2015 QTNP determined that the Cutler Hammer A200 series starter failures may be reportable and an extent of condition review needed to be done.

The root cause was a silicon based mold release that remained on the molded parts and would come between the moving (magnet) & fixed armatures. When heated for an extended period of time, this material would become sticky causing anywhere from a minor delay in opening, up to a frozen closed condition.

Cutler Hammer has determined that the silicone mold release was first introduced into the manufacturing facility in May 2008 due to a shortage of the Zinc Stearate Mold release that was traditionally used. The silicon based mold release was periodically used until October 2012. According to Cutler Hammer, anything made after January 1, 2013 should definitely be silicon mold release free.

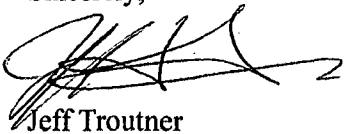
Thus any starters/contactors of the CH A200 series manufactured between May 2008 & December 31, 2012 could have this concern. This failure has only been reported for continuously energized applications. The end user should evaluate their applications for this potential failure mechanism.

**Corrective Action to Prevent recurrence:**

- QualTech has notified all of the affected customers listed in the attached table regarding this issue.
- QualTech will revise applicable dedication plans to add a caution that "Any starters/contactors of the CH A200 series manufactured between May 2008 & December 31, 2012 may not be dedicated and are unacceptable". Or similar language and provide a reference to this notification or Corrective Action document that applies to this notification.

Should you have any questions, please contact me at 513-528-7900 or Tim Franchuk at 513-201-2176

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff Troutner', with a stylized flourish at the end.

Jeff Troutner  
General Manager,  
Curtiss-Wright QualTech, NP

Customer	Plant	Customer PO#:	Year sold/shipped	CC/CJ/T#	Relay	Qty	Tag#	S/N / Date Code
Dominion	North Anna	4500033020	12/13/2012	CC1995/CJ2385	A200MACAC	1	CJ238501	C121119
Dominion	North Anna	4500034851	1/11/2013	CC2019/CJ2415	A200MACAC	1	CJ241501	C121119
Dominion	North Anna	45813045	2/10/2011	CC285/CJ361	A200MACAC	1	CJ36101	C101023
Dominion	North Anna	45597232	7/18/2008	T8270.1	A200MACAC	1	T827001	C080118
Dominion	North Anna	45619298	9/26/2008	T8446.1	A200MACAC	1	T844601	C080118
Duke	H.B. ROBINSON PLANT	00607524	2/16/2012	CC1262/CJ1521	A201K1CA	8	CJ152101	01-02: C120111 03: C120116 04: C111230 05: C110909 06: C110914 07: C111111 08: C111128
Duke	H.B. ROBINSON PLANT	00608576	3/26/2012	CC1293/CJ1555	A201K1CA	6	CJ155501	01-02: C110909 03-06: C110915
KRSKO	Slovenia	10106/479	4/13/2010	T8610.1	A201K5CH	2	T861003	02: C090323 03: C100331
KRSKO	Slovenia	10106/479	4/13/2010	T8610.1	A201K4CH	1	T861004	C090115
PG&E	DIABLO CANYON	3500947987	4/2/2013	CC1818/CJ2177	A200M1CACEJ4	6	CJ217701	01-06: C120928
PG&E	DIABLO CANYON	3500889322	2/10/2011	CC298/CJ380	A201K0CA	9	CJ38001	01: C100603 02: C100617 03: C100701 04-07: C101208 08-09: C110111
PG&E	DIABLO CANYON	3500902818	7/27/2011	CC658/CJ805	A200M0CACDEJ4	5	CJ80501	01-05: C110719
PG&E	DIABLO CANYON	136862	6/16/2008	T8169.1	A200M1CACEJ4	6	T816901	01-06: C080429
PG&E	DIABLO CANYON	3500842462	9/29/2009	T9421EL	A200M0CACDEJ4	2	T942102	01: C090826 02: C090923
PG&E	DIABLO CANYON	3500845845	8/25/2010	T9433.1	A200M1CACEJ4	6	T943302	01-06: C090831
SOUTHERN	HATCH	SNG10037775	11/27/2012	CC1796/CJ2153	A201K1CA	1	CJ215301	C120627
								<b>Date Code is: YYMMDD</b>

Affected Date code range is May of 2008 to Dec. 31 of 2012 (C080501 to C121231)