Part 21 (PAR) Event # 50434

Rep Org:	UNDERWATER CONSTRUCTION CORPORATI	**Notification Date / Time:**	09/08/2014 16:41	(EDT)
Supplier:	UNDERWATER CONSTRUCTION CORPORATI	**Event Date / Time:**	06/18/2014	(EDT)
		Last Modification:	09/08/2014	
Region:	1	**Docket #:**		
City:	ESSEX	**Agreement State:**	No	
County:		**License #:**		
State:	CT			
NRC Notified by:	LES AYER	**Notifications:**	TODD JACKSON	R1DO
HQ Ops Officer:	DONALD NORWOOD		PART 21 GROUP	EMAIL
Emergency Class:	NON EMERGENCY			
10 CFR Section:				
21.21(d)(3)(i)	DEFECTS AND NONCOMPLIANCE			

PART 21 - FAILURE TO MEET SPECIFIED IRRADIATION DURING TESTING OF COATED TEST PANELS

The following information is a synopsis of information received via facsimile:

Underwater Construction Corporation (UCC) was notified by Steris Isomedix Services (SIS) that test panels coated with Bio-Dur 560Blue epoxy coating, which SIS had been contracted to irradiate to a minimum accumulated dose of 1000 Mrad, could possibly have received a dose of only 949 Mrad due to a variance of 5.1 percent not previously reported on the Steris Component Irradiation Certificate. Bio-Dur 560Blue is a Service Level I coating. Failure to meet irradiation requirements for qualifying Service Level I coatings could result in the coating disbonding from the substrate, thus clogging Emergency Core Cooling Strainers during a postulated Loss of Cooling Accident (LOCA).

Bio-Dur 560 Blue was used to reline the toruses at Peach Bottom Units 2 and 3. Also, 588 square feet of Bio-Dur 560 Blue was applied to the liner of the suppression pool at Limerick Unit 1. UCC notified Exelon concerning the irradiation failure and provided the following recommendations:

- Perform evaluation of their Safety Analysis Report to determine if 949 Mrad meets licensing commitments.

- Perform a review and determine if Supplemental Test Report per Exelon Contract 00045628, Release 00735, whereby irradiation testing of BioDur 560Blue was performed to 1000 Mrad by University of Massachusetts will provide reasonable assurance that coating will not fail during a LOCA.

Notification to NRC provided by Les Ayer, UCC QA Manager, 860-767-8256, x-169.

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IE19
NRR

UNDERWATER CONSTRUCTION CORPORATION

110 Plains Road
P.O. Box 699
Essex, CT 06426

Phone 860•767•8256
Fax 860•767•0612

FAX COVER SHEET

To: DOCUMENT CONTROL DESK
From: LES AYER
Fax #: 301-816-5151
Subject: PART 21 NOTIFICATION
Date: 9/8/14
Pages: 7 **(Including cover page)**

COMMENTS:

If you do not receive all pages, please call back immediately. Phone: 860-767-8256

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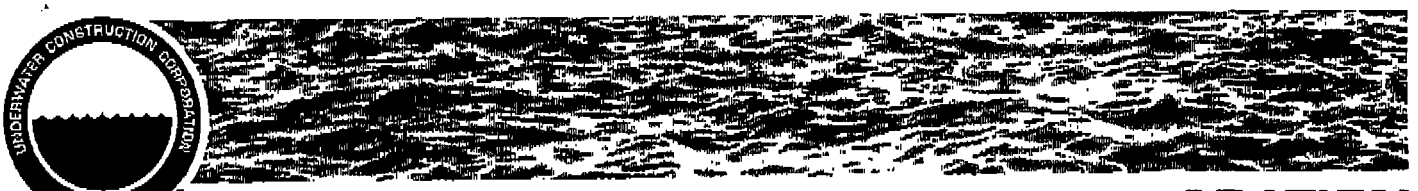

UNDERWATER CONSTRUCTION CORPORATION
110 PLAINS ROAD, P.O. BOX 699, ESSEX, CT 06426-0699 / TEL: 860-767-8256 (800) USA-DIVE FAX: (860) 767-0612

September 5, 2014

TO: Document Control Desk
Nuclear Regulatory Commission
Washington, DC 20555

FROM: Leslie Ayer/ QA Manager
Underwater Construction Corporation
110 Plains Road
Essex, CT. 06426

SUBJECT: Notification of 10 CFR Part 21

Steris, an approved 10CFR 50 Appendix B supplier, was contracted by Underwater Construction Corporation (UCC) to provide irradiation services in support of Design Basis Accident Testing (DBA), in accordance with ASTM D4082-89. In accordance with Steris's Quality Assurance Manual PROC-00829 Revision 3 Dated 1/28/13, UCC issued Steris Purchase Order 13-23Q to irradiated coated test panels to a minimum accumulated dose of 1 x 10^9Rads, or 1000Mrad. UCC also issued Purchase Order 11-03Q to Kinectrics in order to perform Design Basis Accident Testing in accordance with ANSI 101.2 and ASTM 3911-89. Kinectrics contracted Steris to perform irradiation testing in accordance with ASTM D4082-89.

UCC received notification from Steris on June 18, 2014 that a possible 10 CFR Part 21 defect had been identified. Steris was unable to determine if a 10CFR Part 21 existed as part of their notification. Upon UCC's review of Steris's notification it could not be determined that a 10CFR Part 21 had occurred, due to lack of additional information and confirmation of panel placement in relation to the gamma source.

On July 11, 2014 Exelon Generation Company was notified of a possible 10CFR Part 21 defect that may have affected the irradiation test results per Contract 00045628 Release No. 00844 (Limerick Generating Station) and Contract 00045628 Release No. 00652 (Peach Bottom Generating Station).

On Wednesday September 3, 2014 UCC conducted a conference call with Steris for further information and clarification of the reported possible Part 21 defect. It was determined upon further review that a Reportable Part 21 defect does exist and is reportable under Title 10 Code of Federal Regulations Part 21. UCC has generated Nonconformance 14-06 as a result of this identified deficiency.

4316 N. ROOSEVELT ROAD
STEVENSVILLE, MI 49127
TEL: (800) 422-3935
FAX: (269) 429-6579

8494 GULF VIEW DRIVE
SODDY DAISY, TN 37379
TEL: (888) USA-DIVE
FAX: (423) 332-6769

25-15 HONGYOTOKU ICHIKAWA-SHI
CHIBA-KEN JAPAN 272-0103
TEL: 81-90-4813-1155
FAX: 81-47-357-6450

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The basic component affected by this discrepancy is identified as Bio-Dur 560Blue, epoxy coating. Bio-Dur 560Blue is a Service Level I coating, manufactured by Thin Film Technology and distributed by UCC. This coating was used to reline the Tori at Peach Bottom Units 2 and 3 and in Limerick Unit 1 Suppression Pool where 588 ft^2 of coating was applied to the liner.

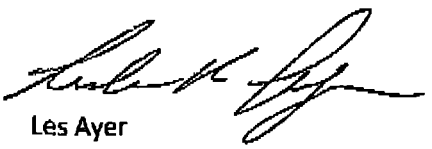
The Code requirements for qualifying Service Level I coatings states, that irradiated panels shall be subject to 1 x 10^9Rads, or 1000Mrad. NRC Report Number 99901445/2014-201 identifies a variance of 5.1% not previously reported on the Steris Component Irradiation Certificate. As a result of this variance the previous reported value of 1000Mrad was determined to be 949Mrad.

Failure to meet irradiation requirements for qualifying Service Level I coatings could result in coating to disbond from substrate, thus clogging Emergency Core Cooling Strainers during a postulated Loss of Cooling Accident (LOCA).

The following recommendations were provided to Exelon:

- Perform evaluation of their Safety Analysis Report to determine if 949Mrad meets licensing commitments.
- Perform a review and determine if Supplemental Test Report per Exelon Contract 00045628 Release 00735, whereby irradiation testing of BioDur 560Blue was performed to 1000Mrad by University of Massachusetts will provide reasonable assurance that coating will not fail during a Loss of Coolant Accident.

Should you require additional information I may be contacted at 860-767-8256 X169.



Les Ayer
UCC QA Manager

STERIS

Isomedix Services

June 18, 2014

Kinectrics Inc.
800 Kipling Avenue Unit 2
Toronto, Ontario MBZ5G5
Attention: Serena Krause

Re: Isomedix Service Whippany NJ NRC Inspection Findings

Dear Valued Customer:

As a valued Customer of STERIS Isomedix Services' gamma processing services, we want to make you aware of the results of an inspection recently conducted by the U.S. Nuclear Regulatory Commission (NRC) under 10 CFR) Part 50, Appendix B with respect to equipment qualification testing of nuclear safety-related components processed in off-carrier positions at the Whippany, New Jersey facility. The NRC issued a Notice of Nonconformance stating that the measuring and testing equipment used to determine the applied radiation dose reported to you on the Isomedix Certificate of Processing provided with each run did not account for all the uncertainties involved (i.e., density of unrelated products in carriers, off-carrier location within the irradiator and Cobalt-60 source decay) and therefore the actual radiation dose applied to components could be less than requested and as reported on the Certificate of Processing.

STERIS Isomedix Services has completed an evaluation of the dose rate variability of items processed in off-carrier locations in the irradiator. This evaluation determined that there may have been variability in readings as great as ± 5.1% of the dose delivered for components processed in off-carrier positions, depending on the location within the irradiator where the component was processed. As a result, the actual dose delivered to your component may have differed up to ± 5.1% from the value reported on the Certificate of Processing. This variability is in addition to the standard measurement uncertainty of the Red Perspex 4034 dosimetry system (± 6.5%) noted in all purchase quotations. Because Isomedix is unable to evaluate the affect this variation may have on the components processed, we are notifying you under the requirements of 10 CFR Part 21.

Isomedix strives to provide processing services in strict compliance with Customer specifications and Isomedix quality processes and procedures. We apologize for any inconvenience that this unique situation may have caused. If you have questions or require additional information, please contact me at (973) 887-2754 or Scott_Comstock@STERIS.com.

Very Truly Yours,

Scott Comstock
Plant Manager
STERIS Isomedix Services
9 Apollo Drive
Whippany, NJ 07981

KINECTRICS

KINECTRICS*USE

June 27, 2014

Underwater Construction Corporation
110 Plains Road
Essex, CT
06426

Re: Steris Isomedix NRC Inspection Findings

Attention: Les Ayer

On June 24, 2014 Kinectrics received notification from Steris Isomedix Services (Steris), a supplier of irradiation services, that a U.S. Nuclear Regulatory Commission (NRC) inspection indicated that applied radiation doses reported by Steris did not account for all the uncertainties involved. As such, the actual radiation dose applied to test specimens may be less than the dose reported by Steris to Kinectrics, and by extension, less than the dose documented in the associated equipment qualification test report(s) provided to you by Kinectrics. The NRC inspection report which identifies this issue is report number 99901445/2014-201. As Kinectrics cannot currently determine if a defect exists, you are being notified under the requirements of 10CFR Part 21.

Kinectrics has assembled a team to address this issue and is currently performing the following actions:

1. Reporting this potential issue to all of Kinectrics' affected customers.
2. Reviewing past and current projects to determine if Steris was utilized for irradiation services.
3. For affected projects, Kinectrics is working closely with Steris to verify the variability of the doses applied, as described in the attached correspondence, and determine the actual radiation dose applied to test specimens as accurately as possible. Kinectrics is planning to have this information available within 25 days.
4. For projects in which the unaccounted variability could have resulted in the actual dose being less than that reported to our Customers, Kinectrics will formally notify those affected Customers of the following:
   a. Advise them of the potential difference in the reported dose.
   b. Work with customers to determine if a defect, as defined by 10CFR Part 21, does indeed exist.

The following purchase orders have been affected by this issue:
11-03Q

Kinectrics is committed to providing the highest level of customer service and will make every effort to work with our customers to reconcile any results affected by this matter. To ensure effective communication during this investigation, please respond to this communication by e-mail at justin.hubbard@kinectrics.com. If you have any questions, or require additional information, please contact me as indicated above, or by phone at 416-207-6000 ext. 6137.

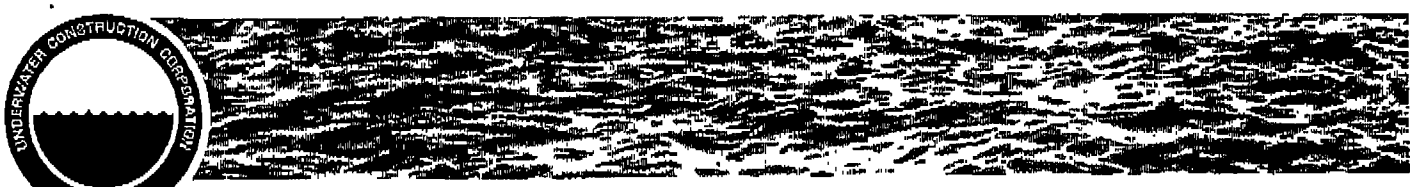
Justin Hubbard
Kinectrics Inc.
Quality Manager

KINECTRICS INCORPORATED

800 Kipling Avenue, Unit 2
Toronto, Ontario, Canada
M8Z 5G5

416.207.6000
416.207.6532

www.kinectrics.com



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July 11, 2014

Exelon Generation Company, LLC
Limerick Nuclear Generating Station
3146 Sanatoga Road
Pottstown PA 19464

Subject: Steris Isomedix NRC Inspection Finding

Attention: George Triantafilopoulos

Underwater Construction Corporation (UCC) was contracted by Exelon Generation Company, LLC to provide Design Basis Accident (DBA) Testing in accordance with Exelon Contract 00045628 Release 844. As part of the testing process UCC contracted Steris Isomedix Services to perform irradiation services.

UCC has been notified by Steris of a potential 10CFR Part 21 issue that may exist concerning the irradiation portion of the DBA testing. (See attached Steris notification). UCC has been in contact with Steris and is performing an ongoing evaluation to determine the accuracy of the issued irradiation report.

At this time UCC is unable to evaluate and determine if a 10CFR Part 21 exists. Under the reporting requirements of 10CFR Part 21 you are being notified of a potential condition that may exist.

Les Ayer
UCC QA Manager
800-872-3483 x169

4916 N. ROOSEVELT ROAD
STEVENSVILLE, MI 49127
TEL: (800) 422-3935
FAX: (269) 429-6579

6494 GULF VIEW DRIVE
SODDY DAISY, TN 37379
TEL: (888) USA-DIVE
FAX: (423) 332-6769

25-15 HONGYOTOKU ICHIKAWA-SHI
CHIBA-KEN JAPAN 272-0103
TEL: 81-90-4813-1155
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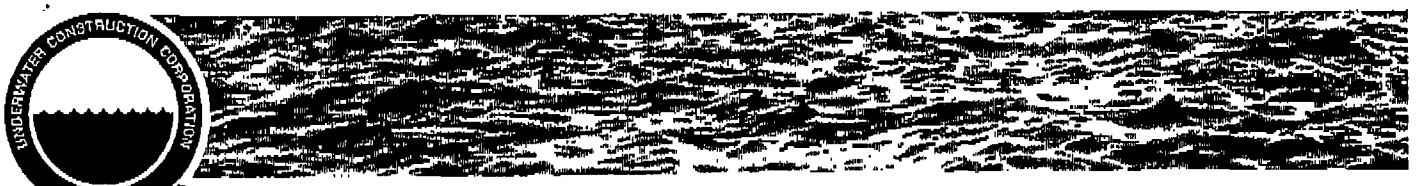

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July 11, 2014

Exelon Generation Company, LLC
Peach Bottom Nuclear Generating Station
1848 Lay Road
Delta PA 17314

Subject: Steris Isomedix NRC Inspection Finding

Attention: Jeanne Hefner

Underwater Construction Corporation (UCC) was contracted by Exelon Generation Company, LLC to provide Design Basis Accident (DBA) Testing in accordance with Exelon Contract 00045628 Release 735. As part of the testing process UCC contracted Kinectrics who in turn contracted Steris Isomedix Services to perform irradiation services.

UCC has been notified by Kinectrics of a potential 10CFR Part 21 issue that may exist concerning the irradiation portion of the DBA testing. (See attached Kinectrics and Steris notification). UCC has been in contact with both Kinectrics and Steris,
and is performing an ongoing evaluation to determine the accuracy of the issued irradiation report.

At this time UCC is unable to evaluate and determine if a 10CFR Part 21 exists. Under the reporting requirements of 10CFR Part 21 you are being notified of a potential condition that may exist.

Les Ayer
UCC QA Manager
800-872-3483 x169

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STEVENSVILLE, MI 49127
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6494 GULF VIEW DRIVE
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CHIBA-KEN JAPAN 272-0103
TEL: 81-80-4813-1155
FAX: 81-47-357-6450

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