

Part 21 (PAR)

Event # 49301

Rep Org: MIRION TECHNOLOGIES CONAX NUCLEAR	Notification Date / Time: 08/23/2013 12:54 (EST)
Supplier: MIRION TECHNOLOGIES CONAX NUCLEAR	Event Date / Time: 08/23/2013 (EDT)
Last Modification: 02/05/2014	
Region: 1	Docket #:
City: BUFFALO	Agreement State: Yes
County:	License #:
State: NY	
NRC Notified by: JOHN MacDONALD	Notifications: WAYNE SCHMIDT R1DO
HQ Ops Officer: MARK ABRAMOVITZ	ROBERT HAAG R2DO
Emergency Class: NON EMERGENCY	LAURA KOZAK R3DO
10 CFR Section:	PART 21 GROUP NRR
21.21(a)(2) INTERIM EVAL OF DEVIATION	

PART-21 NOTIFICATION - UNQUALIFIED MATERIAL USED IN ELECTRICAL PENETRATION ASSEMBLIES

The following information was received via fax:

"Material supplied to MTCN [Mirion Technologies (Conax Nuclear)] by approved sub-suppliers audited to NCA-3800 by MTCN was considered to be ASME [American Society of Mechanical Engineers] qualified source material for Section II and Section III requirements. During triennial survey of MTCN by the ASME for renewal of our N Type Certificates of Authorization, it was identified by the ASME survey team that material supplied by two (2) MTCN approved sub-suppliers should be considered unqualified source material. At that time, MTCN's Quality Program did not include the use of unqualified source material.

"Testing of the coupons for materials used with the basic components supplied to the operating plants is expected to be completed within the next 30 days."

The potentially defective components are electrical penetration headerplates, mounting weldment rings and weld neck flanges for mounting the electrical penetration assemblies.

The affected facilities are: Oconee, Ginna, Crystal River, Point Beach, Monticello, Cook, and Turkey Point.

Point of contact: John MacDonald 716-681-1973

*** UPDATE FROM JOHN MACDONALD TO HOWIE CROUCH ON 9/23/13 AT 1747 EDT ***

MTCN has determined the material supplied to U.S. plants does not impact the material safety or performance of the EPAs (Electrical Penetration Assemblies) delivered. Chemical and mechanical re-verification test results to

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date indicate there have been no test failures compared to the ASME SA-240 material requirements.

Notified R1DO (Welling), R2DO (Seymour), R3DO (Riemer), and NRR Part 21 Group (email only).

*** UPDATE FROM JOHN MACDONALD TO HOWIE CROUCH (VIA EMAIL) ON 2/5/14 AT 1627 EDT ***

MTCN has determined that chemical and mechanical tests indicate that the materials used in the EPAs delivered met ASME requirements and does not impact safety or performance of the delivered devices.

Due to the evaluation results, the vendor submitted this update to provide final closure of this Part 21 issue.

Notified R1DO (Lilliendahl), R2DO (Masters), R3DO (Orlikowski) and the Part 21 group (via email).



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Fax: 301-816-5151, NRC Operations Center

DATE: February 5, 2014

U.S. Nuclear Regulatory Commission
NRC Document Control Desk
Washington, DC 20555-0001

SUBJECT: FINAL REPORT
For component ASME Material supplied by
Mirion Technologies (Conax Nuclear), Inc. (MTCN), as part of
Containment Electric Penetration Assemblies (EPA)

Reference: U.S. NRC Event Number 49301
MTCN Initial Notification & Interim Report Letter dated August 23, 2013
MTCN Interim Report letter dated September 23, 2013

Gentlemen/Ladies:

The purpose of this letter is to provide our final report to the Nuclear Regulatory Commission regarding a potential non-conformance of materials supplied to operating US nuclear power plants by Mirion Technologies (Conax Nuclear), Inc. (MTCN) with Containment Electric Penetration Assemblies (EPA).

Our initial notification was submitted August 23, 2013 and was updated by the interim report dated September 23, 2013. This final report, attached hereto, is submitted in compliance with the requirements of 10 CFR 21.

As a result of our Part 21 evaluation, we have determined that those identified Basic Components that were installed in U.S. nuclear facilities have been determined to meet the requirements of ASME NCA-3800. Therefore, no substantial safety hazard exists as a result of the previously reported condition, this condition is not reportable under 10 CFR 21 and this letter is final closure of the Part 21 evaluation.

Mirion Technologies (Conax Nuclear), Inc.

By: John D. MacDonald

John D. MacDonald, Director of Operations

- Cc: Mirion: I. Wilson, CEO; President, Sensing Systems Division
- Mirion: P. E. Couchman, Quality Engineer
- Mirion: R. L. Nikander, Chief Engineer
- Mirion: M. L. Staskiewicz, Sales Manager
- HSB: P. M. McCarthy, ANI Supervisor



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February 5, 2014

Mirion Technologies (Conax Nuclear) Inc., 10 CFR 21 Final Report
Attachment "A"

I. **Reporting Individual:**

J. D. MacDonald, Director of Operations
Mirion Technologies (Conax Nuclear) Inc.
402 Sonwil Drive
Buffalo, NY 14225-5530
Tel: 716-681-1973, ext. 203
Fax: 716-681-1139
e-mail: jmacdonald@mirion.com

II. **Identification of Basic Components supplied which have a potential defect:**

- a. The following materials supplied with the Electric Penetration Assemblies (EPAs):
 - i. Headerplates
 - ii. Mounting weldment rings
- b. Flanges:
 - i. Weld-neck flanges for mounting of EPA

III. **Identification of the firm supplying the Basic Component:**

Mirion Technologies (Conax Nuclear) Inc.
402 Sonwil Drive
Buffalo, NY 14225-5530

IV. **Nature of Potential Defect (Updated):**

MTCN's initial Notification reported that material supplied to MTCN by approved sub-suppliers audited to NCA-3800 by MTCN was considered to be ASME qualified source material for Section II and Section III requirements. During triennial Survey of MTCN by the ASME for renewal of our N Type Certificates of Authorization, it was identified by the ASME Survey team that material supplied by two (2) MTCN approved sub-suppliers should be considered unqualified source material. At that time, MTCN's Quality Program did not include the use of unqualified source material.

Since MTCN's initial Notification and subsequent Interim Report, we have completed our Part 21 evaluation and provide the following final information to close out our 10 CFR 21 Report:

1. In accordance with ASME NCA-3855.5, MTCN has completed additional independent laboratory material testing on each plate of headerplate and mounting weldment ring material in accordance with ASME SA-240. **The additional testing verified that such material met the requirements of NCA-3800 and therefore does not impact material safety or performance of the EPAs delivered.** This is discussed more fully in Section VII below.



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2. No identified Weld-Neck Flanges have been, or will be, installed. Weld-neck flanges were only supplied in the U.S. to the Oconee Nuclear Power Plant and have either now been destroyed or placed "on hold" for disposition. Since all weld-neck flanges were never installed and are not now, nor will be, in use, there is no issue pertaining to material safety or performance and thus no additional laboratory testing was undertaken.

V. Date the potential defect was discovered:

June 20, 2013

VI. Number and location of basic components in use at, supplied for, being supplied for, manufactured or being manufactured for facilities subject to the regulations in this part (Updated):

Reflecting the results of MTCN investigation as of the date of this report, an updated tabulation is presented as follows:

Basic Components supplied			
Plant Name	No.	Basic Component	Use Status as of February 4, 2014
Oconee	23	Weld-Neck Flanges	18 scrapped from Duke Energy's inventory. 5 in plant stock, placed On Hold . MTCN to coordinate disposition with Oconee.
GINNA	1	Headerplate(s)	Installed, 2009.
Crystal River	2	Headerplates(s) Mounting weldment ring(s)	Not installed. Plant closing. On Hold
Point Beach	2	Headerplate(s)	Not installed. On Hold
Monticello	1	Headerplate(s)	Installed in 2011.
D. C. Cook	1	Headerplate(s)	Not installed. On Hold
Turkey Point	3	Headerplates(s)	Not installed. On Hold
Basic Components being manufactured			
Materials on-hand for Basic Components being manufactured were identified and segregated at time of Notification. With revision to MTCN's Quality Program Manual and re-issue by the ASME of our "N" and "NPT" Certificates of Authorization, the unqualified source material has been tested, reviewed and approved for use.			

VII. Corrective action taken, being taken, or will be taken, and the name of the organization responsible for the action (Updated):

Mirion Technologies (Conax Nuclear), Inc. is the organization responsible for the corrective actions.

Actions taken, being taken, or will be taken to the extent known at this time:

- a. MTCN has reviewed all purchases of all other ASME Code materials used with the EPA



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and verified all such supply has been from ASME Quality System Certificate (QSC) Holders. The scope of this Notification is confirmed to be limited to the materials identified in Section II above.

- b. Subject materials identified in Section II above were supplied with Certified Material Test Reports (CMTRs) which were reviewed at receipt to meet the ASME Code requirements for the material.
- c. MTCN's Quality Program Manual has now been revised, and approved by the relevant Authorized Nuclear Inspector Surveillance (ANIS), to include the use of unqualified source material.
- d. On October 28, 2013, ASME reauthorized MTCN for ASME "N" Certificate of Authorization Number N-1849 and for ASME "NPT" Certificate of Authorization Number N-1850 (copies attached), valid until September 3, 2016.
- e. In accordance with ASME NCA-3855.5, MTCN has completed additional independent laboratory material testing on coupon samples of each plate of headerplate and mounting weldment ring material in accordance with ASME SA-240. The independent testing was performed by an MTCN Approved Supplier test lab to re-verify the mechanical properties of ASME Code materials.

Based on the testing results showing that the EPA headerplate and mounting ring material supplied by MTCN to U.S. plants (see Section VI above) meet the requirements of ASME SA-240, **we have determined that such material meets the requirements of ASME NCA-3800 and does not impact material safety or performance** of the EPAs delivered.

- i. Traceability of material samples was verified for the EPA SA-240 materials supplied.
- ii. Compliance to ASME SA-240 material requirements has been verified by testing of the material properties of samples.
- iii. Chemical and mechanical re-verification test results indicate **there have been no test failures compared to the ASME SA-240 material requirements, indicating the materials are not defective:**
 - Chemistry test results meet the requirements for ASME SA-240 material.
 - Mechanical test results meet or exceed the minimum requirements for SA-240 material:
 - tensile strength
 - yield strength
 - elongation
 - Material is below the maximum hardness for ASME SA-240 material.
 - Material passed the Inter-granular Stress Corrosion Cracking testing in



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accordance with ASTM A-262-13, Practice E.

As noted above, testing has verified the EPA material supplied meets the requirements of ASME NCA-3800 and does not impact material safety or performance of the EPAs delivered.

- f. For all U.S. licensees of plants identified in Section VI to whom MTCN shipped materials identified in Section II above, MTCN is revising the Quality Assurance (QA) Data Package for the EPAs to include revised CMTRs for the ASME SA-240 unqualified source materials used with the EPA. The revised QA Data Packages and revised CMTRs are being supplied to each plant listed.

VIII. Advice related to the potential defect about the basic component that has been, is being or will be given to the purchasers or licensee (Updated):

Licensees noted above in Section VI were notified of the potential defect and were requested to supply MTCN with usage status (i.e., whether components are installed, destroyed or in stock). All licensees listed in the table in Section IV above supplied MTCN with usage status as reflected in Section VI.

With regard to weld-neck flanges for mounting of EPA, no identified weld-neck flanges have been, nor will be, installed by any US licensee. Weld-neck flanges were only supplied to one U.S. site (Oconee Nuclear Power Plant) and have either now been destroyed or placed "on hold" for appropriate disposition.

With regard to the headerplate and mounting weldment ring materials, MTCN has determined that these Basic Components meet the requirements of NCA-3800. Accordingly, MTCN is revising the applicable QA Data Package of the EPA for the supplied Material for each licensee listed in Section VI and is providing revised QA Data Packages to each.

Based on the foregoing, no substantial safety hazard exists as a result of the previously reported condition. Therefore, this condition is not reportable under 10 CFR 21 and this letter is final closure of the Part 21 evaluation.

The American Society of Mechanical Engineers



CERTIFICATE OF AUTHORIZATION

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

**Mirion Technologies (Conax Nuclear), Inc.
402 Sonwil Drive
Cheektowaga, New York 14225-5530**

SCOPE:

Construction of Class 1, 2, 3, & MC vessels and Class 1, 2, & 3 valves at the above location and with additional Code activities as described in the Quality Program Manual at 456 Sonwil Drive, Cheektowaga, New York 14225

AUTHORIZED: October 28, 2013

EXPIRES: September 3, 2016

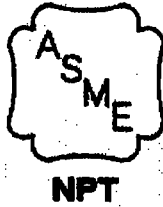
CERTIFICATE NUMBER: N-1849

Vice President, Conformity Assessment

Director, Conformity Assessment



The American Society of Mechanical Engineers



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COMPANY:

**Mirion Technologies (Conax Nuclear), Inc.
402 Sonwil Drive
Cheektowaga, New York 14225-5530**

SCOPE:

Class 1, 2, 3, & MC fabrication without design responsibility and fabrication with design responsibility for Class 1, 2, 3, & MC appurtenances and as a Material Organization manufacturing and supplying ferrous & nonferrous material at the above location and with additional Code activities as described in the Quality Program Manual at 456 Sonwil Drive, Cheektowaga, New York 14225

AUTHORIZED: October 28, 2013
EXPIRES: September 3, 2016
CERTIFICATE NUMBER: N-1850

Vice President, Conformity Assessment

Director, Conformity Assessment

