

A Westinghouse Electric Company

WEC Carolina Energy Solutions  
244 E. Mt. Gallant Road  
Rock Hill, South Carolina 29730  
USA

Date: 7/24/14

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

Dear Mr. Roach:

This letter provides WEC Carolina Energy Solutions, LLC. (CES) response to the Nonconformance's documented by the NRC in Vendor Inspection Report No. 99901438/2014-201.

Nonconformance NON 99901438/2014-201-01

Criterion IV, "Procurement Document Control," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," states, "measures shall be established to assure that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and services, whether purchased by the applicant or by its contractors or subcontractors."

APP-PL01-Z0-201, revision 1, "Reactor Coolant Loop Piping Fabrication Specification Including Welding," governs the production of the reactor coolant loop piping for the Vogtle and Summer projects. APP-PL01-Z0-201 invokes the 1998 Edition through the 2000 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (B&PV).

ASME B&PV Code Section V, "Nondestructive Examination," Subsection A, "Nondestructive Examination Methods," Article 6, "Liquid Penetrant Examination," Mandatory Appendix II, "Control of Contaminants for Liquid Penetrant Examination," Paragraph 642 requires all penetrant materials used for examining austenitic steel be analyzed individually for total halogen content in accordance with Annex 4 of SE-165, "Standard Test Method for Liquid Penetrant Examination." Alternatively, the material may be decomposed and analyzed in accordance with SE-165, Annex 2 for chlorine and SE-165, Annex 3 for fluorine.

Contrary to the above, as of May 2, 2014, CES failed to assure that applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and services. Specifically, CES failed to ensure that testing of the penetrant materials performed by NLS Analytical Services, Inc., under Purchase Order (PO) 4500619362, was performed in accordance with ASME SE-165.

LEO9  
NRO

## **Response and Corrective Actions Taken**

The test was performed again by approved supplier Applied Technical Services (ATS) and results meet customer spec APP-PL01-Z0-201 this purpose. Both of these tests were to provide concurrence for the customer specification APP-PL01-Z0-201 to determine what cleaning process would apply prior to shipping. These tests were not to provide input for SE-165 verification, rather for other contaminants noted in the customer specification.

Code requirements (e.g. ASME SE-165) are tested for and verified by the chemical manufacturer (Magnaflux). CES receives a material test report, at receipt, for each batch and verifies that Code requirements are met. The verification of ASME SE-165 requirements was known prior to the customer specification testing and is always supplied by the manufacturer (Magnaflux) therefore the PO to the testing vendor did not require to reference SE-165.

The PO 4500622783 to the supplier of the testing materials which includes the appropriate Code references for testing requirements is attached. The CES PO to the testing material supplier references ASME Section V, Article 6, T-641 per Mandatory Appendix II, which encompasses ASME SE-165. The Magnaflux Certificate of Certification is attached for further evidence.

Further action also includes; all future POs where special material testing is required and PT materials are part of the special testing, the POs will reference ASME SE-165 requirements and specific customer specifications. This excludes the purchase of PT materials as that requirement is already included when PT materials are purchased from the manufacturer's distributor. The Se-165 requirement is always provided by the manufacturer's Certificate of Certification.

Training to the purchasing coordinator and the quality organization has been completed to ensure future POs are issued with appropriate reference to ASME requirements.

A review was performed to confirm no other POs were issued for chemical testing to meet any customer special testing requirements beyond the SE-165 already provided by the manufacturer.

The corrective actions pertaining to the identified Nonconformance 99901438/2014-201-02 have been completed. The documented formal closure within the CES Corrective Action Program will be finalized by 8/15/2014. (Issue Report Number 100011113)

Review of the PT materials Certificate of Certification from the manufacturer (Magnaflux) provide evidence that compliance to SE-165 are met by the manufacturer, therefore, added testing to that criteria was not required. However, clarification to special testing POs is a positive lesson learned.

- 1) Magnaflux Certificate of Certification (3 provided for reference)

Summary for Nonconformance 99901438/2014-201-01:

Based on the data provided, CES considers this response adequate justification for closure of Nonconformance 99901438/2014-201-01.

## **Nonconformance 99901438/2014-201-02**

Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50, states, in part, that "Measures shall be established to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and Non-conformances are promptly identified and corrected."

Carolina Energy Solutions' "Quality Assurance Program Manual," Revision 6, dated February 22, 2013, Section 16, states that "measures established to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected."

Contrary to the above, as of May 2, 2014, Carolina Energy Solutions failed to promptly identify and correct a condition adverse to quality. Specifically:

1. The 2013 Nuclear Procurement Issues Committee (NUPIC) audit of CES identified that CGQP-7.0, Control of Purchased Material, Equipment, and Services, allows for the acceptance of commercial calibration services for use in safety-related applications without performing dedication. CES opened Issue Report 13-074-P001 to revise the procedure. However, CES had issued POs for commercial calibration services to be used in safety-related applications without performing dedication before the procedure was corrected and did not evaluate the effect of using any commercially calibrated equipment on basic components, including items that had shipped.
2. The CES 2013 Internal Audit performed by Global QA Inc. identified that CGQP-18.0, Audits, allows for the acceptance of commercial calibration services for use in safety-related applications without performing dedication. CES failed to open an issue report to correct the procedure, issued POs for commercial calibration services to be used in safety-related applications without performing dedication, and did not evaluate the effect of using any commercially calibrated equipment on basic components, including items that had shipped.

### **Response and Corrective Actions Taken**

The reference in the nonconformance concerning commercial grade services for calibration relates to the fact that CES had utilized the application of vendors through A2LA and NVLAP accreditations. Prior to March 2013, two (2) vendors were on the CES ASL based on the accreditations. These vendors were approved for use per the CES QA Program at the time of use, and the POs were in fact issues as Safety Related POs. CES had provisions in the CES Level 2 procedures, CGQP 18.0 and CGQP 7.0 which allowed approval of suppliers through accreditation versus auditing. This was previously identified and revisions to CGQP 18.0 and 7.0 had been prepared and were pending during the NRC Inspection, but the revisions had not been issued.

The corrective actions addressing the procedure revisions were not implemented in a timely manner. The actions to address the concern were addressed by removal of the vendors for the ALS immediately after the NUPIC audit noted the concern. In review there was no impact on any of the calibrations performed after the NUPIC audit.

A review the CES Approved Suppliers List (ASL) was performed to confirm all vendors approved for calibration services were audited by CES and none are on the ASL based on accreditation. CES had removed any vendors from the CES ASL that were not approved through the auditing process. Further, a review of all the M&TE calibration records was performed for the extent of condition related to calibration services performed by calibration vendors. The review provided verification that no calibrated equipment had been used where the calibration was performed by the vendors that had been added to the ASL based on accreditation versus an audit. CES General Quality Procedures (CGQPs) 7.0 and 18.0 have been revised to remove language allowing use of accredited vendors in lieu of auditing.

CES completed a review of all open corrective actions items to ensure that any conditions adverse to quality were promptly identified and corrected.

The corrective actions pertaining to the identified Nonconformance 99901438/2014-201-02 have been completed. The documented formal closure within the CES Corrective Action Program will be finalized by 8/15/2014. (Issue Report Number 100008123)

Summary for Nonconformance 99901438/2014-201-02:

Based on the data provided, CES considers this response adequate justification for closure of Nonconformance 99901438/2014-201-02.

If you have any questions or would like to discuss this response, please contact me at (847)-990-7525

Respectfully,



Charles Ginn  
Manager, Quality Assurance  
WEC Carolina Energy Solutions, LLC  
244 E Mt. Gallant Road, Rock Hill, SC. 29730  
Phone: (847)-990-7525  
Cell: 847-656-6139  
Email: ginncd@westinghouse.com

DATE: 5/23/13

PURCHASE ORDER #

CERTIFIED MATERIAL Spotcheck Penetrant, SKL-SP2

BATCH # 13E14K

## CERTIFICATE OF CERTIFICATION

MAGNAFLUX®

3624 West Lake Avenue  
Glenview, Illinois 60026

Tel. (847) 657-5300

Fax (847) 657-5388

www.magnaflux.com

### CERTIFICATION

It is hereby certified that when tested at the time of manufacturer, the above listed material and batch number meets the requirements of and has been tested for Sulfur and Halogens according to:

- ASME Boiler and Pressure Vessel Code, 2004, 2007 and 2010 Edition, Section V , Nondestructive Examination, including 2005, 2006, 2008,2009b, and 2011a Addenda, Article 6 Paragraph T-640 and Article 24 as applicable.
- ASME Boiler and Pressure Vessel Code, 1995, 1998 and 2001 Edition, Section V Nondestructive Examination, including 1999, 2000, 2002 and 2003 Addenda, Article 6 Paragraph T-640 and Article 24 as applicable.
- ASME Boiler and Pressure Vessel Code, 1986, 1989 and 1992 Edition, Section V , Nondestructive Examination, Article 6 including 1992 Addenda, Paragraph T-625, 1993 Addenda Paragraph T-640 and Article 24 as applicable.
- ASTM E-165-92, ASTM E-165-94, ASTM E-165-95, ASTM E-165-02, ASTM E-165-09, ASTM E-165/E-165M-12, Paragraph 7.1.
- MIL-STD-271F(SH) June 27, 1986, Paragraphs 5.3 and 5.3.1, including Notice 1 Paragraph 5.6.1 June 21, 1993.
- NAVSEA T9074-AS-GIB-010/271, April 30, 1997 including Notice 1 February 16, 1999, Paragraph 5.3.1 and 5.6.2.
- NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev 11 May 1983, Rev. 12 December 1987 including ACN 2 November 15, 1990, Rev. 13 October 1993 including ACN 4 June 30, 1995, Rev. 16 May 9, 2003 Including ACN 5, Rev. 17, Sept. 2007 including ACN 6, Paragraphs 12.5.1.1 and 12.5.1.1.1).
- MIL-STD-2132D, February 11, 2003, Paragraphs 7.1, 7.1.2 and 7.1.3, Appendix C, Paragraph 40.

The following test results were obtained:

Sulfur <10 ppm <0.0010 wt., % of residue. CL+F <10 ppm <0.0010 wt., % of residue

Cleaner residue (see note 3) NA g/100g NA g/100ml

It is further certified that this material does not contain mercury as a basic element and that no mercury bearing equipment has been used in its manufacture.

#### Notes:

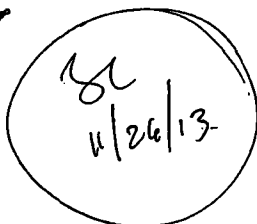
1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
2. Most specifications require test results to be stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
3. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

*Mathew Plamoottil*

Mathew Plamoottil  
Quality Assurance Manager

*Laurie Marx*

Laurie Marx  
Quality Control Manager



**MAGNAFLUX**  
A Division of Illinois Tool Works Inc.

DATE: 5/23/13

PURCHASE ORDER #

CERTIFIED MATERIAL Spotcheck Penetrant, SKL-SP2

BATCH # 13E14K

## CERTIFICATE OF CERTIFICATION

MAGNAFLUX®

3624 West Lake Avenue  
Glenview, Illinois 60026

Tel. (847) 657-5300

Fax (847) 657-5388

www.magnaflux.com

### CERTIFICATION

It is hereby certified that the above listed inspection material and batch number meets the requirements of AMS 2644E and is approved by the U.S. Air Force.

When tested according to paragraph 4.3.2, Sampling Plan A, the following test results were obtained:

- 4.2.2.1 Penetrant Tests:

Flash Point (PMCC), 3.3.3

Viscosity, 3.3.4 (3.83 cs. Nominal)

Fluorescent Brightness, 3.3.8.3.2 (FP-4PE Standard)

Water Tolerance (Method A only), 3.3.8.5

Removability, 3.3.8.6

246 °F

4.02 cs@100° F

NA %

NA

PASS

- 4.2.2.1 Emulsifier Tests:

Flash Point (PMCC), 3.3.3

Viscosity, 3.3.4 (3.83 cs. Nominal)

Water Content (Method D Only), 3.3.9.6

NA °F

NA cs@100° F

NA %

- 4.2.2.3 Developer Tests:

Developer Fluorescence, 3.3.10.2

Developer Removability, 3.3.10.4

Redispersibility, 3.3.10.5

NA

NA

NA

- 3.3.11.4 Remover Tests:

Penetrant Removal, 4.4.11.2

NA

It is further certified that this material meets the requirements of ASTM E 1417, Paragraph 5.1.

Batch Numbers appear on labels of bulk containers and on bottoms of aerosol cans.

*Mathew Plamoottil*

Mathew Plamoottil  
Quality Assurance Manager

*Laurie Marx*

Laurie Marx  
Quality Control Manager

*SL*  
11/26/13



**MAGNAFLUX**

A Division of Illinois Tool Works Inc.

DATE: 7/22/13

PURCHASE ORDER #

CERTIFIED MATERIAL Spotcheck Developer, SKD-S2

BATCH # 13G07K

## CERTIFICATE OF CERTIFICATION

MAGNAFLUX\*

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Glenview, Illinois 60026

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Fax (847) 657-5388

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CES 0267

### CERTIFICATION

It is hereby certified that when tested at the time of manufacturer, the above listed material and batch number meets the requirements of and has been tested for Sulfur and Halogens according to:

- ASME Boiler and Pressure Vessel Code, 2004, 2007 and 2010 Edition, Section V , Nondestructive Examination, including 2005, 2006, 2008, 2009b, and 2011a Addenda, Article 6 Paragraph T-640 and Article 24 as applicable.
- ASME Boiler and Pressure Vessel Code, 1995, 1998 and 2001 Edition, Section V Nondestructive Examination, including 1999, 2000, 2002 and 2003 Addenda, Article 6 Paragraph T-640 and Article 24 as applicable.
- ASME Boiler and Pressure Vessel Code, 1986, 1989 and 1992 Edition, Section V , Nondestructive Examination, Article 6 including 1992 Addenda, Paragraph T-625, 1993 Addenda Paragraph T-640 and Article 24 as applicable.
- ASTM E-165-92, ASTM E-165-94, ASTM E-165-95, ASTM E-165-02, ASTM E-165-09, ASTM E-165/E-165M-12, Paragraph 7.1.
- MIL-STD-271F(SH) June 27, 1986, Paragraphs 5.3 and 5.3.1, including Notice 1 Paragraph 5.6.1 June 21, 1993.
- NAVSEA T9074-AS-GIB-010/271, April 30, 1997 including Notice 1 February 16, 1999, Paragraph 5.3.1 and 5.6.2.
- NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev 11 May 1983, Rev. 12 December 1987 including ACN 2 November 15, 1990, Rev. 13 October 1993 including ACN 4 June 30, 1995, Rev. 16 May 9, 2003 Including ACN 5, Rev. 17, Sept. 2007 including ACN 6, Paragraphs 12.5.1.1 and 12.5.1.1.1).
- MIL-STD-2132D, February 11, 2003, Paragraphs 7.1, 7.1.2 and 7.1.3, Appendix C, Paragraph 40.

The following test results were obtained:

Sulfur 94 ppm 0.0094 wt., % of residue. CL+F <10 ppm <0.0010 wt., % of residue

Cleaner residue (see note 3) NA g/100g NA g/100ml

It is further certified that this material does not contain mercury as a basic element and that no mercury bearing equipment has been used in its manufacture.

#### Notes:

1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
2. Most specifications require test results to be stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
3. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

*Mathew Plamoottil*

Mathew Plamoottil  
Quality Assurance Manager

*Laurie Marx*

Laurie Marx  
Quality Control Manager

11/26/13



**MAGNAFLUX**  
A Division of Illinois Tool Works Inc.

DATE: 7/22/13

PURCHASE ORDER #

CERTIFIED MATERIAL Spotcheck Developer, SKD-S2

BATCH # 13G07K

## CERTIFICATE OF CERTIFICATION

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www.magnaflux.com

CES0267

### CERTIFICATION

It is hereby certified that the above listed inspection material and batch number meets the requirements of AMS 2644E and is approved by the U.S. Air Force.

When tested according to paragraph 4.3.2, Sampling Plan A, the following test results were obtained:

- 4.2.2.1 Penetrant Tests:

Flash Point (PMCC), 3.3.3

Viscosity, 3.3.4 ( cs. Nominal)

Fluorescent Brightness, 3.3.8.3.2 (FP-4PE Standard)

Water Tolerance (Method A only), 3.3.8.5

Removability, 3.3.8.6

NA ° F

NA cs@100° F

NA %

NA

NA

- 4.2.2.1 Emulsifier Tests:

Flash Point (PMCC), 3.3.3

Viscosity, 3.3.4 ( cs. Nominal)

Water Content (Method D Only), 3.3.9.6

NA ° F

NA cs@100° F

NA %

- 4.2.2.3 Developer Tests:

Developer Fluorescence, 3.3.10.2

Developer Removability, 3.3.10.4

Redispersibility, 3.3.10.5

PASS

PASS

PASS

- 3.3.11.4 Remover Tests:

Penetrant Removal, 4.4.11.2

NA

It is further certified that this material meets the requirements of ASTM E 1417, Paragraph 5.1.

Batch Numbers appear on labels of bulk containers and on bottoms of aerosol cans.

*Mathew Plamoottil*

Mathew Plamoottil  
Quality Assurance Manager

*Laurie Marx*

Laurie Marx  
Quality Control Manager

*SE*  
*11/26/13*





DATE: 8/29/13

PURCHASE ORDER #

CERTIFIED MATERIAL Spotcheck, SKC-S

BATCH # 13H08K

## CERTIFICATE OF CERTIFICATION

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Glenview, Illinois 60026

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Fax (847) 657-5388

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CES0269

### CERTIFICATION

It is hereby certified that when tested at the time of manufacturer, the above listed material and batch number meets the requirements of and has been tested for Sulfur and Halogens according to:

- ASME Boiler and Pressure Vessel Code, 2004, 2007 and 2010 Edition, Section V , Nondestructive Examination, including 2005, 2006, 2008, 2009b, and 2011a Addenda, Article 6 Paragraph T-640 and Article 24 as applicable.
- ASME Boiler and Pressure Vessel Code, 1995, 1998 and 2001 Edition, Section V Nondestructive Examination, including 1999, 2000, 2002 and 2003 Addenda, Article 6 Paragraph T-640 and Article 24 as applicable.
- ASME Boiler and Pressure Vessel Code, 1986, 1989 and 1992 Edition, Section V , Nondestructive Examination, Article 6 including 1992 Addenda, Paragraph T-625, 1993 Addenda Paragraph T-640 and Article 24 as applicable.
- ASTM E-165-92, ASTM E-165-94, ASTM E-165-95, ASTM E-165-02, ASTM E-165-09, ASTM E-165/E-165M-12, Paragraph 7.1.
- MIL-STD-271F(SH) June 27, 1986, Paragraphs 5.3 and 5.3.1, including Notice 1 Paragraph 5.6.1 June 21, 1993.
- NAVSEA T9074-AS-GIB-010/271, April 30, 1997 including Notice 1 February 16, 1999, Paragraph 5.3.1 and 5.6.2.
- NAVSEA 250-1500-1 (Rev. 10 June 1979, Rev. 11 May 1983, Rev. 12 December 1987 including ACN 2 November 15, 1990, Rev. 13 October 1993 including ACN 4 June 30, 1995, Rev. 16 May 9, 2003 including ACN 5, Rev. 17, Sept. 2007 including ACN 6, Paragraphs 12.5.1.1 and 12.5.1.1.1).
- MIL-STD-2132D, February 11, 2003, Paragraphs 7.1, 7.1.2 and 7.1.3, Appendix C, Paragraph 40.

The following test results were obtained:

Sulfur NA ppm NA wt., % of residue. CL+F NA ppm NA wt., % of residue

Cleaner residue (see note 3) 0.0029 g/100g 0.0022 g/100ml

It is further certified that this material does not contain mercury as a basic element and that no mercury bearing equipment has been used in its manufacture.

#### Notes:

1. Our batch number appears on the bottom of all aerosol cans and on the label of all bulk containers.
2. Most specifications require test results to be stated in percent but some require parts per million (ppm). To convert "percent" figures to "parts per million" move the decimal four places to the right.
3. The above certification gives the results obtained at the time of manufacture. Age and use may alter the properties of any material.

*Mathew Plamoottil*

Mathew Plamoottil  
Quality Assurance Manager

*Laurie Marx*

Laurie Marx  
Quality Control Manager



**MAGNAFLUX**  
A Division of Illinois Tool Works Inc.

DATE: 8/29/13

PURCHASE ORDER #

CERTIFIED MATERIAL Spotcheck, SKC-S

BATCH # 13H08K

## CERTIFICATE OF CERTIFICATION

MAGNAFLUX®

3624 West Lake Avenue  
Glenview, Illinois 60026

Tel. (847) 657-5300

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CES0269

### CERTIFICATION

It is hereby certified that the above listed inspection material and batch number meets the requirements of AMS 2644E and is approved by the U.S. Air Force.

When tested according to paragraph 4.3.2, Sampling Plan A, the following test results were obtained:

- 4.2.2.1 Penetrant Tests:

Flash Point (PMCC), 3.3.3

Viscosity, 3.3.4 ( cs. Nominal)

Fluorescent Brightness, 3.3.8.3.2 (FP-4PE Standard)

Water Tolerance (Method A only), 3.3.8.5

Removability, 3.3.8.6

NA ° F

NA cs@100° F

NA %

NA

NA

- 4.2.2.1 Emulsifier Tests:

Flash Point (PMCC), 3.3.3

Viscosity, 3.3.4 ( cs. Nominal)

Water Content (Method D Only), 3.3.9.6

NA ° F

NA cs@100° F

NA %

- 4.2.2.3 Developer Tests:

Developer Fluorescence, 3.3.10.2

Developer Removability, 3.3.10.4

Redispersibility, 3.3.10.5

NA

NA

NA

- 3.3.11.4 Remover Tests:

Penetrant Removal, 4.4.11.2

PASS

It is further certified that this material meets the requirements of ASTM E 1417, Paragraph 5.1.

Batch Numbers appear on labels of bulk containers and on bottoms of aerosol cans.

*Mathew Plamoottil*

Mathew Plamoottil  
Quality Assurance Manager

*Laurie Marx*

Laurie Marx  
Quality Control Manager

82  
11/26/13

