

June 24, 2014

Mr. Mike Mennone, VP and General Manager
RSCC Wire & Cable LLC
20 Bradley Park Road
East Granby, CT 06026

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT
NO. 99901443/2014-201 AND NOTICE OF NONCONFORMANCE OF RSCC
WIRE & CABLE LLC

Dear Mr. Mennone:

From May 19 to May 23, 2014, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the RSCC Wire & Cable LLC (RSCC) facility in East Granby, CT. The purpose of the limited-scope inspection was to assess RSCC's compliance with the provisions of selected portions 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," and 10 CFR Part 21, "Reporting of Defects and Noncompliance."

This inspection specifically evaluated RSCC's design control, qualification testing, commercial grade dedication, manufacturing, inspections, testing controls, measuring and test equipment (M&TE), nonconformance, 10 CFR Part 21, and corrective action activities for operating reactor plants. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute NRC endorsement of your overall quality assurance (QA) or 10 CFR Part 21 programs.

Based on the results of this inspection, the NRC inspection team found that the implementation of your QA program did not meet certain NRC requirements imposed on you by your customers or NRC licensees in the areas of design control and control of purchased material, equipment, and services. Specifically, RSCC did not evaluate or place controls on the use of L4 oil on the KXL-760D insulation during the manufacturing process for Class 1E nuclear cables. Additionally, RSCC failed to ensure that product specification drawings were consistent with actual design specifications. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter.

Please provide a written statement or explanation within 30 days from the date of this letter in accordance with the instructions specified in the enclosed Notice of Nonconformance. We will consider extending the response time if you show good cause for us to do so.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC's Public Document Room or through the NRC's document system, Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not

include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

/RA/

Richard A. Rasmussen, Chief
Electrical Vendor Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket No.: 99901443

Enclosures:

1. Notice of Nonconformance
2. Inspection Report 99901443/2014-201

include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

Richard A. Rasmussen, Chief
Electrical Vendor Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket No.: 99901443

Enclosures:

1. Notice of Nonconformance
2. Inspection Report 99901443/2014-201

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NRO-002

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NAME	EHuang	JJimenez	ARamirez	LMicewski
DATE	06/19/2014	06/18/2014	06/18/2014	06/19/2014
OFFICE	NRO/DCIP/QVIB	RII	NRO/DCIP	NRO/DCIP/EVIB
NAME	TKendzia	DTerry-Ward	TFrye	RRasmussen
DATE	06/18/2014	06/23/2014	06/23/2014	06/24/2014

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NOTICE OF NONCONFORMANCE

RSCC Wire & Cable, LLC.
20 Bradley Park Road
East Granby, CT 06026

Docket No.: 99901443
Inspection Report No.: 99901443/2014-201

Based on the results of a Nuclear Regulatory Commission (NRC) inspection conducted at the RSCC Wire & Cable, LLC (RSCC) facility in East Granby, CT, on May 19–23, 2014, certain activities were not conducted in accordance with NRC requirements which were contractually imposed on RSCC by NRC licensees:

- A. Criterion III of Appendix B to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 states in part that, “Measures shall also be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components.”

Contrary to the above, as of May 23, 2014, RSCC failed to review suitability of all material used during original qualification of cable. Specifically, L4 oil is used on the KXL-760D insulation as part of the manufacturing process for Class 1E nuclear cables. The effect on the qualification in accordance with Qualification Test Report #QR-5804 was indeterminate since RSCC’s initial review did not find documentation that the oil was used on the sample that was qualified and there are also no controls on the oil to ensure that there were no changes to the composition/quality of the oil or screening for possible contaminants that may affect the original qualification assumptions.

This issue has been identified as Nonconformance 99901443/2014-201-01.

- B. Criterion III of Appendix B to 10 CFR Part 50 states in part that, “Measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions.”

Contrary to the above, as of May 23, 2014, RSCC failed to correctly translate design specifications into their specification drawings. Specifically, product specification drawing TD-005418 for a 1/C 2 AWG power cable is inconsistent with actual design specifications. Upon review of the calculation basis for the product specification drawing, the actual minimum bend radius should be higher than what was listed on the product specification drawing, and the maximum pulling tension value was also incorrect. This product specification drawing is utilized by customers for installation of cables and for other engineering and design-related activities.

This issue has been identified as Nonconformance 99901443/2014-201-02

Please provide a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Chief, Construction Electrical Vendor Branch, Division of Construction Inspection and Operational Programs, Office of New Reactors, within 30 days of the date of the letter transmitting this Notice of Nonconformance. This reply should be clearly marked as a “Reply to a Notice of

Nonconformance” and should include for each noncompliance: (1) the reason for the noncompliance, or if contested, the basis for disputing the noncompliance; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid noncompliances; and (4) the date when your corrective action will be completed. Where good cause is shown, consideration will be given to extending the response time.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or through the NRC’s Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated this the 23th day of June 2014.

**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NEW REACTORS
DIVISION OF CONSTRUCTION INSPECTION AND OPERATIONAL PROGRAMS
VENDOR INSPECTION REPORT**

Docket No.: 99901443

Report No.: 99901443/2014-201

Vendor: RSCC Wire & Cable LLC
20 Bradley Park Road
East Granby, CT 06026

Vendor Contact: Mr. Mike Mennone, VP and General Manager
mmennone@r-scc.com

Background: RSCC Wire & Cable, located at 20 Bradley Park Road, East Granby, CT, provides Class 1E cables and commercial-grade dedication services to U.S. nuclear power plants.

Inspection Dates: May 19–23, 2014

Inspection Team Leader: Eugene Huang, NRO/DCIP/EVIB

NRC inspection team: Jose Jimenez, NRO/DCIP/EVIB
Annie Ramirez, NRO/DCIP/EVIB
Laura Micewski, NRO/DCIP/MVIB
Thomas Kendzia, NRO/DCIP/QVIB
Denise Terry-Ward, RII

Approved by: Richard A. Rasmussen, Chief
Electrical Vendor Branch
Division of Construction Inspection and Operational Programs
Office of New Reactors

EXECUTIVE SUMMARY

RSCC Wire & Cable, LLC
99901443/2014-201

The U.S. Nuclear Regulatory Commission (NRC) conducted this vendor inspection to verify that RSCC Wire & Cable, LLC (hereafter referred to as RSCC), implemented an adequate quality assurance (QA) program that complies with the requirements 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," and 10 CFR Part 21, "Reporting of Defects and Noncompliance."

This inspection specifically evaluated RSCC's design, production, testing, and dedication of safety-related cables. The NRC inspection team reviewed the procurement, design, equipment qualification, commercial grade dedication (CGD), inspection and testing of RSCC's cable manufacturing process. The NRC conducted this inspection at RSCC's facility in East Granby, CT.

The following regulations served as the bases for this NRC inspection:

- Appendix B to 10 CFR Part 50
- 10 CFR Part 21

The NRC inspection team used Inspection Procedure (IP) 43002, "Routine Inspections of Nuclear Vendors," dated July 15, 2013, IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated April 25, 2011, and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 13, 2012.

The information below summarizes the results of this inspection.

10 CFR Part 21 Program

The NRC inspection team determined that the implementation of RSCC's program for 10 CFR Part 21 was consistent with the regulatory requirements of 10 CFR Part 21. No findings of significance were identified.

Commercial Grade Dedication and the Manufacturing Process

The NRC inspection team determined that the implementation of RSCC's programs for the assembly, inspection, testing, and commercial-grade dedication activities was consistent with the regulatory requirements of Criterion III, "Design Control," Criterion IV, "Procurement Document Control," Criterion VII, "Control of Purchased Material, Equipment, and Services," Criterion X, "Inspection," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Design Control

The NRC inspection team determined that RSCC has not established a program that adequately implements the requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. The NRC inspection team issued Nonconformance 99901443/2014-201-01, for RSCC's failure to evaluate and put controls on the use of L4 oil on the KXL-760D insulation during the manufacturing process for Class 1E safety-related power cables. In addition, the

NRC inspection team issued Nonconformance 99901443/2014-201-02, for RSCC's failure to correctly translate technical data sheet specification details into their controlled Class 1E Nuclear safety-related product specification drawing.

Procurement Document Control and Oversight of Contracted Activities

The NRC inspection team determined that the implementation of RSCC's programs for procurement document control and oversight of contracted activities was consistent with the regulatory requirements of Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Measuring and Test Equipment

The NRC inspection team determined that the implementation of RSCC's program that adequately controls calibration and use of measuring and test equipment was consistent with the regulatory requirements of Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Inspection and Testing

The NRC inspection team determined that the implementation of RSCC's programs for testing and inspection was consistent with the regulatory requirements of Criterion X, "Inspections," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Nonconformance Program

The NRC inspection team determined that the implementation of RSCC's program that documents and evaluates nonconformances was consistent with the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Corrective Action Program

The NRC inspection team determined that the implementation of RSCC's program that documents and evaluates corrective actions was consistent with the regulatory requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

REPORT DETAILS

1. 10 CFR Part 21

a. Inspection Scope

The NRC inspection team reviewed RSCC's policies and implementing procedures that govern its Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21 program to verify compliance with the requirements of 10 CFR Part 21, "Reporting of Defects and Noncompliance." Specifically, the NRC inspection team reviewed RSCC's 10 CFR 21 procedure which describes the authorities and responsibilities for evaluating and reporting defects and noncompliance.

The NRC inspection team reviewed the procedures for corrective action, nonconformance, and other processes that could identify a defect or nonconformance, to ensure that they provided for screening to determine if an evaluation for 10 CFR Part 21 reporting was required. The NRC inspection team walked down the facility to ensure that the 10 CFR Part 21 postings were in place as required. The NRC inspection team also reviewed the training records for the Director of Quality Assurance, the Quality Control (QC) Manager, and Manager of Applications Engineering to verify those individuals who are authorized to screen for 10 CFR Part 21 reporting were trained on 10 CFR Part 21.

The NRC inspection team reviewed the RSCC procedure for records to ensure it required records to be maintained in accordance with the requirements of 10 CFR Part 21. The NRC inspection team also interviewed the Director of Quality Assurance, the QC Manager, and a sample of staff members of RSCC, on the implementation of the 10 CFR Part 21 program. The NRC inspection team reviewed documentation associated with a 10 CFR Part 21 report made by RSCC in 2012, a 10 CFR Part 21 evaluation that was determined to not be reportable, and a large sample of nonconformance and corrective action reports that were screened to not require 10 CFR Part 21 evaluations, to ensure that the requirements of 10 CFR Part 21 were being adequately implemented.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team determined that the implementation of RSCC's program for 10 CFR Part 21 was consistent with the regulatory requirements of 10 CFR Part 21. No findings of significance were identified.

2. Commercial Grade Dedication and the Manufacturing Process

a. Inspection Scope

The NRC inspection team reviewed RSCC's policies and procedures governing the implementation of its commercial-grade dedication program to verify compliance with Criterion III, "Design Control," Criterion IV, "Procurement Document Control," Criterion VII, "Control of Purchased Material, Equipment, and Services," Criterion X, "Inspection," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed RSCC's standard procedure (SP) 042SP004, "Procedure for Dedication of Commercial Items to Nuclear Safety Related Applications" which provides the methodology for dedicating commercial-grade items/services to be used in the manufacture of safety-related cables, including the development of critical characteristics and the respective acceptance criteria. The NRC inspection team reviewed the nuclear-qualified Firewall III Insulated Wire/Cable product line dedication plans that included critical characteristics for each particular cable design. In addition, the NRC inspection team reviewed a sample of inputs to the dedication process, including: 1) customer/supplier purchase orders (PO), 2) development of critical characteristics, and 3) acceptance process. The NRC inspection team noted that RSCC was in the process of updating the CGD plans for their Firewall III cable product line and will be formalizing the method they use for determining critical characteristics with their procedure for technical evaluations. The NRC inspection team reviewed RSCC surveys of commercial grade suppliers used for the acquisition of raw materials and services to ensure critical characteristics for commercial grade items were appropriately tested or verified, and that the commercial grade items were manufactured in accordance with the supplier's quality assurance program previously validated by RSCC.

The NRC inspection team observed activities related to the manufacture of safety-related cables to ensure personnel were trained, that procedures were available, and that the proper in-process inspections took place. RSCC specification and process engineers were interviewed to verify that manufacturing instructions and procedures were in agreement with activities performed by the operators. The NRC inspection team also observed the receipt inspections for resistors and capacitors used in calibration equipment and specifically verified that the requirements listed in the PO were adequately translated to the dedication plan.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team determined that the implementation of RSCC's programs for the assembly, inspection, testing, and commercial-grade dedication activities was consistent with the regulatory requirements of Criterion III, "Design Control," Criterion IV, "Procurement Document Control," Criterion VII, "Control of Purchased Material,

Equipment, and Services,” Criterion X, “Inspection,” and Criterion XI, “Test Control,” of Appendix B to 10 CFR Part 50. No findings of significance were identified.

3. Design Control

a. Inspection Scope

The NRC inspection team reviewed RSCC’s policies and procedures for the safety-related cables design control and qualification to verify compliance with Criterion III, “Design Control,” and Criterion XI, “Test Control,” of Appendix B to 10 CFR Part 50. The NRC inspection team evaluated RSCC’s design change control process and procedures established in RSCC’s Quality Assurance Manual (QAM).

Specifically, the NRC inspection team reviewed three of the most recent design changes documented in RSCC’s RPS Nuclear Impact Form to ensure they did not invalidate the qualified safety-related cable product type with respect to its original design including its qualification for aging, radiation, and electrical properties. In addition, the NRC inspection team interviewed RSCC engineering staff to verify that their review of design changes considered the original design and qualification of the safety-related cables and that before issuance of the change it had gone through an independent review.

The NRC inspection team also reviewed a sample of RSCC test procedures, test reports, test plans, cable product specification drawings, technical bulletins, manufacturing process sheets, purchase orders, procurement and component design specification documents and equipment qualification reports.

The NRC inspection team evaluated the adequacy of equipment qualification procedures for the environmental qualification. The NRC inspection team evaluated the autoclave LOCA chamber, technical procedures and instrumentation. The NRC inspection team reviewed a sample of equipment qualification packages related to different cable design and configurations and verified that testing was done to the correct technical requirements and specifications. The NRC inspection team also evaluated that qualification reports were consistent with the guidance established in the IEEE-323-1974 Standard for Qualifying Class IE Equipment for Nuclear Power Generating Stations as contractually required by purchase orders.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

The NRC inspection team noted that for the manufacturing machine for continuous vulcanization extrusion, oil was specified to be used for coating the conductor before the insulating material was extruded onto the wire. This particular machine was used for extruding chemically cured flame retardant cross-linked polyethylene (designated KXL-760D) onto the conductor for wire and cable qualified for Class 1E Service in Nuclear Generating Stations. The NRC inspection team questioned whether the oil was considered a safety-related material and what controls existed on the quality and use. The NRC inspection team reviewed the qualification test (#QR-5804) report for this insulation (Rockbestos Firewall III Chemically Cross-Linked Polyethylene) and could not verify the oil was documented as being used on the samples that were tested. RSCC

identified that they had been using the oil as part of their manufacturing process for a long time, but since they had not considered it to be safety-related, they purchased it as normal L4 oil with no specific controls on composition or cleanliness. RSCC identified that this wire and cable qualified for Class 1E Service had been supplied to many nuclear power stations. RSCC's initial review determined that they did not have documentation on whether the L4 oil was used on the wire and cable that was tested for qualification. RSCC initiated CAR #14-085 to evaluate the effect of L4 oil in this process.

RSCC failed to review suitability of all material used during manufacturing of the Rockbestos Firewall III wire and cable. Specifically, L4 oil is used on the conductor before installing the KXL-760D insulation as part of the manufacturing process of wire and cable qualified for Class 1E Service. The effect on the qualification in accordance with Qualification Test Report #QR-5804 was indeterminate, since RSCC's initial review did not find documentation that the oil was used on the sample that was qualified and there are also no controls on the oil to ensure that there were no changes to the composition/quality of the oil or screening for possible contaminants that may affect the original qualification assumptions.

This issue has been identified as Nonconformance 99901443/2014-201-01.

Upon review of product specification drawing TD-005418, "Class 1E Nuclear safety related 90°C 600V 1/C 2 AWG power cable," Revision 2, the NRC inspection team noted the following critical characteristics:

- Nominal overall diameter: 0.422"
- Minimum bending radius for permanent training: 1.69"; Minimum bending radius for pulling: 3.38"
- Maximum pulling tension, eye in pounds: 529 lbs.; Maximum pulling tension, basket in pounds: 529 lbs.

The NRC inspection team compared product specification drawing TD-005418 and Technical Data Sheet # E-2412, and noted that the nominal overall diameter (inches) of the power cable with jacket was shown on product specification drawing TD-005418 as 0.422" and shown on the Technical Data Sheet # E-2412 as 0.442". The NRC inspection team interviewed the RSCC engineering staff on this noted inconsistency and RSCC determined that the nominal overall diameter of 0.422" shown on published specification drawing TD-005418 was incorrect. The correct value should be 0.442" as correctly shown on Technical Data Sheet # E-2412.

Additionally, the NRC inspection team evaluated Rockbestos Products, technical Bulletin #28, which provides the recommended bending radii for permanent training of cables during installation when no significant pulling tension is required and also provides the recommended minimum bending radii for cables being installed under pulling tensions. Cable bending radii indicates the minimum values for the radii to which insulated cables may be bent for permanent training during installation since the service life of a cable may be reduced if the cable is bent excessively either during installation of the cable or in its final installed location. Rockbestos Products, technical Bulletin #28 indicates for permanent training during installation, the non-metallic sheath (cable-no shields, 9 and fewer components), a multiplier of 4x components outside diameter should be used for an analysis. For cables being installed under pulling tensions, the non-metallic sheath

(cable-no shields and 9 and fewer components) a multiplier of 8x component outside diameter should be used.

The NRC inspection team identified that the minimum bending radius for permanent training and pulling of cables using Rockbestos Products, technical Bulletin #28 was different than what was listed on product specification drawing TD-005418. The specification drawing had a less conservative minimum bending radius for permanent training and pulling of cables when using the correct nominal overall diameter value.

The NRC inspection team identified other inconsistencies that RSCC needed to evaluate when comparing published product specification drawing TD-005418 and Technical Data Sheet # E-2412. RSCC created CAR No. 14-080 to evaluate this issue.

RSCC failed to correctly translate design specifications into their specification drawings. Specifically, product specification drawing TD-005418 for a 1/C 2 AWG power cable is inconsistent with actual design specifications. Upon review of the calculation basis for the product specification drawing, the actual minimum bend radius should be higher than what was listed on the specification drawing and there were other noted inconsistencies. Product specification drawings are utilized by customers for installation of cables and for other engineering and design-related activities.

This issue has been identified as Nonconformance 99901443/2014-201-02.

d. Conclusions

The NRC inspection team determined that RSCC has not established a program that adequately implements the requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. The NRC inspection team issued Nonconformance 99901443/2014-201-01 for RSCC's failure to evaluate and put controls on the use of L4 oil on the KXL-760D insulation during the manufacturing process for Class 1E safety-related power cables. In addition, the NRC inspection team issued Nonconformance 99901443/2014-201-02 for RSCC's failure to correctly translate technical data sheet specification details into their controlled Class 1E Nuclear safety-related product specification drawing.

4. Procurement/Supplier Control

a. Inspection Scope

The NRC inspection team reviewed RSCC's policies and implementing procedures that govern the implementation of RSCC oversight of contracted activities to verify compliance with Criterion IV, "Procurement Document Control," and Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50. Specifically, the NRC inspection team verified that applicable quality requirements, including technical, regulatory, and reporting requirements, were specified in the procurement documents reviewed and extended to lower-tier suppliers when necessary. Additionally, the NRC inspection team reviewed the procedures and implementation to select and qualify vendors supplying basic components and services, through a sample of certificates of calibrations, audits, surveys, and receiving inspections.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team determined that the implementation of RSCC's programs for governing the supplier approval process to verify compliance was consistent with the requirements of Criterion IV, "Procurement Document Control," and Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

5. Measuring and Test Equipment

a. Inspection Scope

The NRC inspection team reviewed RSCC's policies and implementing procedures in compliance with the regulatory requirements of Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50. Specifically, the NRC inspection team sampled RSCC's M&TE calibration records for test equipment to ensure that all requirements of instruments and testing devices used in activities affecting quality are properly controlled and tested. The NRC inspection team reviewed the RSCC process for dispositioning M&TE calibration failures and a sample of failure documentations to ensure it met regulatory requirements. The inspection team reviewed certificates of calibration services and samples of purchase orders for calibrated equipment. In addition, the NRC inspection team discussed M&TE processes with RSCC's management and technical staff.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team determined that the implementation of RSCC's programs for control of calibration and use of M&TE was consistent with the regulatory requirements of Criterion XII of Appendix B to 10 CFR Part 50. No findings of significance were identified.

6. Inspection and Test Control

a. Inspection Scope

The NRC inspection team reviewed RSCC's policies and implementing procedures in compliance with the regulatory requirements of Criterion X, "Inspection," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. Specifically, the NRC inspection team witnessed and reviewed a final inspection and electrical testing and verified that adequate travelers documents, checklists, and testing procedures were implemented correctly. The NRC inspection team also reviewed that persons performing the final inspection and electrical testing were qualified and the inspection results, including deviations, were properly documented. In addition, the NRC inspection team discussed the processes with RSCC's management and technical staff.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team determined that the implementation of RSCC's programs for testing and inspection was consistent with the regulatory requirements of Criterion X, "Inspections," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

7. Nonconformances

a. Inspection Scope

The NRC inspection team reviewed policies, implementing procedures, and records that governed the control of nonconforming materials, parts, and components to verify compliance with Criterion XV, "Nonconforming Materials, Parts, or Components," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed the RSCC Wire & Cable LLC Quality Manual, which contain RSCC overall quality policies, to ensure it addressed the regulatory requirements for nonconforming items.

To verify that RSCC's implementation and control over these processes were adequate, the NRC inspection team reviewed RSCC's procedures that govern identification, control and correction of nonconforming items. RSCC has two different processes for identification, control and correction of nonconforming items. The NRC inspection team reviewed RSCC's procedures SP Number 072SP001, "Rejection & Disposition Procedure – Purchased Material" (designated as FMRs), dated October 22, 2012, and SP Number 072SP005, "Off-Standard Report Procedure" (designated as OSRs), dated December 18, 2009. The NRC inspection team reviewed other processes at RSCC that could identify a nonconformance (such as materials subject to shelf life and final inspection) to ensure that they used the FMR or OSR processes. The NRC inspection team reviewed the FMR and OSR logs for 2013 and 2014, and selected 32 samples to review in detail to ensure the processes were being followed and the

dispositions appeared appropriate. The NRC inspection team reviewed the training records for the QC Manager and one of the QC inspectors, who were authorized to sign off on FMR and OSR dispositions to ensure they were trained on the regulatory requirements and RSCC processes and implementation for nonconforming items.

The NRC inspection team observed final QC inspection of cables (dissection and measurement of critical characteristics of a one foot section from each end of every spool) to ensure RSCC requirements were being implemented. The NRC inspection team observed a nuclear respool operation, which looks for defects through the whole length of a spool of cable. The NRC inspection team also observed a QC inspection of a customer return. The NRC inspection team reviewed the procedures that would perform rework of nonconformances to ensure that quality requirements were maintained and all inspections were required to be reperformed as appropriate. The NRC inspection team observed a pre-shift brief for the manufacturing staff, where quality issues were discussed to verify quality was a focus of the manufacturing staff. The NRC inspection team verified that RSCC's procedures address the requirement that nonconforming material, parts, or components shall be identified and segregated if appropriate, and verified the implementation of this requirement through walkdown of the shop area. The NRC inspection team discussed the FMR and OSR processes with the Director of Quality Assurance, QC Manager, and two QC personnel to assess their understanding of the regulatory requirements and RSCC processes and implementation.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team determined that the implementation of RSCC's program that documents and evaluates nonconformances was consistent with the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, of Components," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

8. Corrective Actions

a. Inspection Scope

The NRC inspection team reviewed policies, implementing procedures, and records that govern corrective actions to verify compliance with Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed the RSCC Wire & Cable LLC Quality Manual, which contain RSCC overall quality policies, to ensure it addressed the regulatory requirements for corrective action.

To verify that RSCC's implementation of the corrective action process meet regulatory requirements, the NRC inspection team reviewed RSCC procedures, observed a corrective action review meeting, and reviewed corrective action reports (CARs). Specifically the NRC inspection team reviewed SP Number 071SP008, "Corrective Action," Revision 10, dated November 4, 2014, to ensure that it implemented the

regulatory requirements. The NRC inspection team reviewed other processes at RSCC that could identify a condition adverse to quality (such as internal and external audits, and customer complaints) to ensure that they used the corrective action process.

The NRC inspection team reviewed the logs for CARs from 2013 and 2014 and selected 36 samples to review in detail to ensure the process was being followed and the dispositions appeared appropriate. The RSCC procedure for corrective action specifies that Quality Assurance is responsible for CARs associated with quality, making assignments and concurring with corrective action and closures. The NRC inspection team verified the corrective action process and for the CARs reviewed, identified conditions adverse to quality were promptly identified and corrected, significant conditions adverse to quality were promptly identified and corrected, the cause was determined and actions were taken to prevent recurrence, and that appropriate RSCC management were being notified.

The NRC inspection team reviewed trends from the OSRs, FMRs, and CARs, to see whether trends that were conditions adverse to quality were being identified in the corrective action process. The NRC inspection team observed one corrective action review meeting and reviewed the minutes from three other management review board meetings to ensure that focus included meeting quality and regulatory requirements. The NRC inspection team reviewed the training records and interviewed the Director of Quality Assurance, and the QC Manager, to ensure they were trained on the regulatory requirements and RSCC processes and implementation for corrective action.

The attachment to this inspection report lists the individuals interviewed and documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team determined that the implementation of RSCC's program that documents and evaluates corrective actions was consistent with the regulatory requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

8. Entrance and Exit Meetings

On May 19, 2014, the NRC inspection team presented the inspection scope during an entrance meeting with Mr. Mike Mennone, VP & General Manager of the Utility Division, and other RSCC personnel. On May 23, 2014, the NRC inspection team presented the inspection results during an exit meeting with Mr. Mike Mennone, VP & General Manager of the Utility Division, and other RSCC personnel.

ATTACHMENT

1. PERSONS CONTACTED AND NRC STAFF INVOLVED

Name	Title	Affiliation	Entrance	Exit	Interviewed
M. Mennone	VP/GM Utility	RSCC	X	X	
E. Rasmussen	Director of Engineering	RSCC	X	X	X
R. Brown	QA Manager (Ret.)	RSCC	X	X	X
R. Gehm	Manager of App. Engineering	RSCC	X	X	X
D. Murphy	Director of QA	RSCC	X	X	X
R. Jendza	Quality Manager – Utility	RSCC	X	X	X
J. Jeh	Operations Manager	RSCC		X	
C. Hobson	Lead Quality Aide	RSCC			X
C. Lissabet	Laboratory Technician	RSCC			X
D. Schaver	Operator	RSCC			X
A. Espvik	Process Engineer	RSCC			X
D. Mainstruck	Manager Specifications Engineering	RSCC			X
D. Drezek	Machine Operator	RSCC			X
E. Huang	Inspection Team Leader	NRC	X	X	
A. Ramirez	Inspection Team Member	NRC	X	X	
J. Jimenez	Inspection Team Member	NRC	X	X	
L. Micewski	Inspection Team Member	NRC	X	X	
T. Kendzia	Inspection Team Member	NRC	X	X	
D. Terry-Ward	Inspection Team Member	NRC	X	X	

2. INSPECTION PROCEDURES USED:

IP 43002, "Routine Inspections of Nuclear Vendors"

IP 43004, "Inspection of Commercial-Grade Dedication Programs"

IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance"

3. ITEMS OPENED, CLOSED, AND DISCUSSED:

<u>Item Number</u>	<u>Status</u>	<u>Type</u>	<u>Description</u>
99901443/2014-201-01	OPEN	NON	Criterion III
99901443/2014-201-02	OPEN	NON	Criterion III

4. DOCUMENTS REVIEWED:

Procedures

RSCC Wire & Cable LLC Quality Manual, Revision 8, January 1, 2011

010SP006, "Quality Policy, Objectives and Goals," Revision 15, dated February 21, 2012

010SP007, "Shipping Hold Procedure," Revision 0, dated August 15, 1996

042SP001, "Control of Test Media and Materials for Nuclear Qualification Testing," Revision 1, dated August 03, 1998

042SP002 "RPS's and Material & Supplier Approval," Revision 5, dated June 23, 2005

042SP003, "Re-Irradiation Procedures," Revision 2, dated December 23, 2003

042SP004 "Dedication of Commercial Items to Nuclear Safety Related Applications," Revision 3, dated December 31, 2013

042SP005 "Technical Evaluation of Commercial Grade Items and Services Purchased for Nuclear Safety-Related Applications," Revision 0, dated July 10, 2012

044SP001 "Rockbestos Customer Product Designs (RCPD's)," Revision 3, dated January 12, 2010

044SP002 "MIT Control," Revision 6, dated November 24, 2010

044SP003 "Control of External Standards and Customer Specs," Revision 0, dated August 15, 1996

051DI104-5 "Primary Extruders," Revision 0, dated October 15, 1996

051DI105-1 "CV Extrusion," Revision 0, dated November 11, 1996

051DI105/3, "CV Extrusion Trouble Shooting Guide," Revision 0, dated October 1, 1996

051DI106-1 "Irradiation Instructions," Revision 1, dated March 7, 1997

051DI110-1 "Jacket Mold Curing Oven and Autoclave Instructions," Revision 0, dated October 29, 1996

051DI135, "Repairing Weld Defects in Customer-Supplied Metal Buffered MC Cables," Revision 0, dated April 21, 2011

051SP001, "Product Handling," Revision 0, dated August 15, 1996

051SP003, "Procedure for Labeling UL Listed Products," Revision 2, dated December 23, 2003

051SP004 "Extrusion Process Checklists," Revision 5, dated April 13, 2007

052SP001 "Procedure for Change of Process Control Instructions," Revision 2, dated January 30, 1997

053SP001, "Work Order System," Revision 6, dated January 11, 2012

053SP004 "Equipment - Process Line Change Notification," Revision 7, dated January 11, 2013

061SP001 Change Orders, Revision 12, dated February 6, 2014

061SP004, "Returns and Complaints," Revision 14, dated April 13, 2006

071SP003, "Product Identification and Traceability Procedure," Revision 6, effective February 06, 2013

071SP005, "Internal and External Auditing," Revision 11, dated March 17, 1996

071SP006, "Training Outlines QA/QC Personnel," Revision 6, dated March 6, 2014

071SP007, "Qualification of Inspection and Test Personnel," Revision 3, Effective December 10, 2013

071SP008, "Corrective Action," Revision 10, dated November 4, 2013

071SP009 "Quality Plan," Revision 1, dated December 23, 2003

071SP012, "Rework Guidelines and Traceability," Revision 3, dated December 23, 2003

071SP013, "Preventative Action," Revision 4, dated November 1, 2012

071SP014, "Inspection & Test Plans," Revision 0, dated November, 07, 2013

072DI101, "In-process Inspection Procedure," Revision 4, dated January 19, 2006

072DI102, "Final Inspection Procedure," Revision 8, dated October 18, 2005

072DI104, "RSCC Wire & Cable LLC Electrical Test Department Manual of Procedures Edition 1," Revision 11, dated August 30, 2012

072DI107, "Master Lists and Recall System for Calibrated Inspection, Measuring, and Test Equipment," Revision 1, dated December 23, 2003

072SP001, "Rejection & Disposition Procedure – Purchased Material," Revision 9, dated October 22, 2012

072SP002, "Receiving Inspection Procedure," Revision 17, dated December 30, 2013

072SP004, "Procedure for Control of Inspection, Measurement, and Test Equipment," Revision 6, dated January 3, 2013

072SP005, "Off Standard Report Procedure," Revision 5, dated December 18, 2009

072SP009, "Workmanship Standard, Firewall III Jackets," Revision: 1, dated August 13, 2010

072SP010, "Oven Cure Procedure-Thermoset Jackets," Revision 1, dated December 11, 2006

072SP012, "Detection of Potentially Fraudulent or Counterfeit Products," Revision 0, dated November 19, 2009

073SP001, "Continual Improvement," Revision 1, dated March 10, 2006

091SP001 "Authorized Supplier Listing," Revision 13, dated February 28, 2011

091SP002, "Procedure for Review and Approval of Purchase Orders," Revision 9, dated May 29, 2012

091SP005 "Purchasing Components, Subcomponents, Completed Cable, and Manufacturing Services," Revision 0, dated July 31, 2013

092SP001, "Remake Procedure," Revision 4, dated May 29, 2013

093SP001, "Control and Disposition of Extrusion Compounds and Inks Which are Subject to Bin Storage/Limited Life Periods," Revision 9, dated July 23, 2010

095SP001 "Storage Procedure," Revision 2, dated December 23, 2003

010SP004, "10 CFR 21 procedure," Revision 4, dated March 10, 2014

Department Instruction (DI) 041DI106, "Design Verification," Revision 1, dated December 10, 2006

Quality Assurance Manual, Revision 11, dated August 6, 2013

Calibration procedure #39 for spark testers, dated October 22, 1996

Purchase Orders

PO #151975, LOCA Test per Attached QualTech Proposal No. HQ2224-1, dated June, 2006

PO #152843, Post DBE Submergence testing Performed by Qualtech NP for Westinghouse AP1000 Qualification, dated September 19, 2013

PO #4500608826, "Westinghouse Electric Co, 3C 6 AWG 7/0.612 TC X-LPE Firewall III, Nuclear M4 (3) AWG GWs BLK CSPE 600V P600664," dated December 2, 2013

PO #574642. "TVA, Product # FS 01014-004, FN 04016-009," dated August 6, 2013

PO #154648, "2500 lbs., VFPP14OFR, Blue, 2500 lbs., VFPP180FR Blue," dated April 3, 2014

PO #153202 with RALCO, Inc. for calibration of capacitance and dissipation standard, dated October 25, 2013

PO #153500 with Tektronix Calibration Lab for calibration of REX Gauge Type A Durometer, dated November 27, 2013

PO #154996 with RALCO, Inc. for calibration of resistor and capacitor, dated December 2, 2013

PO #153657 with Steris Isomedix Services for irradiation of cable, dated January 6, 2014

PO #441611, CC to RSCC, dated October 25, 2013

PO #HP00002764, QualTech to RSCC, dated July 16, 2013

PO #00684929, Duke Energy Progress, dated July 24, 2013

PO #153140 Steris to RSCC, dated October 23, 2013

PO #152625 QualTech to RSCC, dated September 4, 2013

PO #153627 Marmon to RSCC, dated December 18, 2013

PO #141037 Marmon to RSCC, dated February 23, 2010

PO #153500, Tektronix to RSCC, dated November 27, 2013

PO #153760, Trinity specialty compound to RSCC, dated January 2, 2014

Test procedures, Reports, Plans

EGS-TR-HC1941-01, "Test Procedure for Post DBE Submergence Test of Firewall III, Insulated Wire/Cable Manufactured by RSCC Wire and Cable, LLC," dated March 07, 2014

EGS-TR-HC1741-01, "Test Report for LOCA/DBA Environmental Qualification Test of Firewall III, Insulated Wire/Cable Manufactured by RSCC Wire and Cable, LLC," dated June 28, 2013

TP-1201, "Test Plan, In Support Of The Qualification Of Firewall® III Irradiation Cross-Linked Polyethylene Insulation KXL-760g With Chlorosulfonated Polyethylene Jacket Kh-131 or Irradiation Cross-Linked Polyethylene Jacket Kxl-760g For Nuclear Class 1e Service In AP1000 Nuclear Generating Power Stations For 60 Years Of Qualified Life At 90°C," Revision 0

TP-1304, "Test Plan in Support of the Qualification of RSCC MV Power Cable with Kerite Insulation System for Generic Class 1E Normal Service Use in Nuclear Generating Power Stations for 60 Years of Qualified Life at 90 C," Revision 0, dated October 22, 2013

TP-1315, "Test plan for this # Medium Voltage non-Shielded power cable Kerite insulation system for generic Nuclear Incident Class1E Service in NGPS for 60 yrs. life at 90 C," Revision 0, dated 3/17/2014

TR-1008, "RSCC Wire & Cable LLC Test report CSPE Like for a Like Replacement," Revision 2, dated January 31, 2011

Spec #L2-E-017, Control Cable and Low Voltage Power Cable," Revision 6

TP-1315, "Test Plan in Support of the Qualification of RSCC Medium Voltage Nonshielded Power Cable with Kerite Insulation System for Generic Nuclear Incident Class 1E Service in Nuclear Generating Power Stations for 60 Years of Qualified Life at 90 C," Revision 0, dated March 17, 2014

041DI08, Technical Procedure, "Technical Manual for Class 1E Qualification Test," Revision 15

041DI109, Technical Procedure, "Qualification Test Procedure Manual for Class 1E Qualification Test," Revision 11

Spec #CGG-PES-004, "Safety Related Rockbestos 600V Power Control Instrument & Specialty Cable," Revision 1, dated July 1, 2008

Certified Test Report for 1/C 2 AWG 7/STR XLPE/CSPE 600V Power Cable FWLIII-J, dated November 27, 2013

Certified test report for 9/C 16 AWG 7/STR TC XLPE/CSPE 600V, dated July 16, 2013

Equipment Qualification and Test Reports

QR-1305, "RSCC MV Power cable with Kerite Insulation system and thermoset chlorosulfonated polyethylene jacket for generic nuclear incident class 1E service in nuclear

generating power stations for 60 yrs. of qualified life at 90 C,” Revision 0, dated March 22, 2013

QR-5804, “Report on qualification test for Rockbestos Firewall III Chemically cross-linked Polyethylene for Class 1E Service in Nuclear Generating Power Stations,” dated October 24, 1984

QR-5804-Part II, “Report on Qualification on Flame testing for firewall chemically cross linked Polyethylene construction for Class 1E service in Nuclear generating stations,” dated November 12, 1985

QR 5805, “Firewall III Irradiation cross-linked Polyethylene Construction Class IE Service in Nuclear Generating Stations,” Revision 2, dated July 2, 1987

QR-8703, “Rockbestos Adverse Service, Coaxial, Twinaxial and Triaxial cable generic nuclear incident for class 1 E service in Nuclear Generating Stations,” Revision 0, dated October 6, 1987

Certified test report for 3/C 6 AWG 7/STR TC XLPE/CSPE 600V, dated January 16, 2014

Spec #125-P-7, “600 Volt Single & Multiple Conductor Flame Retardant Power & Control,” revision 4, dated January 28, 1998

Commercial Grade Dedication

Commercial Grade Dedication Plan for Calibration Services from Tektronix Service Solutions, dated June 20, 2013

Commercial Grade Dedication Plan for Calibration Services from RALCO, Inc. dated December 12, 2013

Commercial Grade Dedication Plan for Soucy Techno Inc. - PO #154508 “KH-131 Mold Cure CSPE”

Commercial Grade Dedication Plan for Marmon Utility LLC – PO #153787 “Insulated Power Cable rated 5 to 35kV”

Commercial Grade Dedication Plan for Dow Chemical – PO #151896 “KP-901 Irradiated Foamed Polyethylene”

Commercial Grade Dedication Plan for Trinity Specialty Compounding – PO #154662 “KXL-760G Irradiated Polyolefin”

Commercial Grade Dedication Plan for R.D. Abbott Co. – PO #154448 “KS-550 CV Silicone”

Commercial Grade Dedication Plan for Electric Cable Compounds – PO #150779 “KZH-525 CV Zero Halogen”

A2LA Certificate No. 2357.09 for Tektronix, Inc. of North Billerica, Massachusetts, dated April 8, 2013

A2LA Certificate No. 2357.15 for Tektronix, Inc. of Novi, Michigan, dated September 16, 2013

A2LA Certificate No. 0802.01 for RALCO, Inc., dated December 11, 2013

A2LA Certificate No. 0802.01 for RALCO, Inc., dated July 20, 2011

Certificate of Calibration from Tektronix, Inc. for Rex Gauge durometer, Model #DD-4-A, dated December 30, 2013

Certificate of Calibration from RALCO, Inc. for Presco AG Tan Delta Reference Box, Model #TG-CAL, dated October 28, 2013

Certificate of Calibration from RALCO, Inc. for Mannix Temp & Humidity Meter, Model #LAM 8800, dated August 23, 2013

Certificate of Calibration from RALCO, Inc. for Sensitive Research Electrostatic Voltmeter, Model #ESH-25, dated September 28, 2012

Commercial Grade Dedication Technical Evaluation for RALCO, Inc., dated October 24, 2012

Commercial Grade Surveys

Electric Cable Compounds, Inc., dated April 26, 2011

Harbour Industries, dated January 18, 2011

Silmix-Wacker Chemical Corp., dated April 5, 2011

Trinity Specialty Compounding, dated October 13, 2011

Marmon Utility LLC, dated August 31, 2011

Audits

Audit No. 2011-1, "10CFR50 Appendix B Audit Checklist," for audit of Steris Isomedix Services, audit conducted June 23, 2011

Audit No. 2011-2, "10CFR50 Appendix B Audit Checklist," for audit of QualTech NP, audit conducted September 12 - 13, 2011

Design Changes

Purchasing Specification RPS-87A/KXL-760G, "Polyolefin Wire Insulation for Service to 90 C Flame-Retardant, Irradiation Crosslinkable Compound," Revision 19, dated January 25, 2010

Purchasing Specification RPS-87A/KXL-760D, "Polyolefin Wire Insulation for Service to 90 C Flame-Retardant, CV Crosslinkable Compound," Revision 9, dated January 15, 2010

Purchasing Specification RPS-87A/KS-550-CV, "Radiation Resistant Silicone Rubber Wire Insulation," Revision 1, dated June 3, 1992

Calibration Records

Report #140129-6, Digital Temperature Indicator, dated January 29, 2014

Report #140129-7, Pressure Transducer, dated January 29, 2014

Report #140129-8, AC Test Set, dated January 29, 2014

Report #140129-9, AC Test Set, dated January 29, 2014

Report #14129-10, AC Test set, dated January 29, 2014

Report #140129-13, AC Test Set, dated January 29, 2014

Report #140129-14, AC Test Set, dated January 29, 2014

Report #140129-11, AC Test Set, dated January 29, 2014

Report #140129-1, Current Controllers, dated January 29, 2014

Report #140129-3, Current Controllers, dated January 29, 2014

Report #140129-4, Current Controllers, dated January 29, 2014

Report #140129-5, Current Controllers, dated January 29, 2014

Report #140129-2, Current Controllers, dated January 29, 2014

Report #140129-1, Current Controllers, dated January 29, 2014

Report #140131, Flow Gauge, dated January 31, 2014

Certificate of calibration-spark tester-HF-15AC/BD-22S, dated July 16, 2013

Certificate of calibration-Ralco, temp & humidity meter, mannix, model #LAM 8800, dated August 23, 2013

Certificate of calibration-Ralco, electrostatic voltmeter, sensitive research, model #esh-26, dated September 27, 2012

Certificate of calibration #130808 for AC Test Set, dated August 8, 2013

Certificate of calibration #130926 for Megohmmeter, dated September 26, 2013

Certificate of calibration #140116 for Digital ohmmeter, dated January 16, 2014

Micrometer calibration for MIT #293-344, RC-875, dated December 11, 2013

Certificate of calibration for Dial caliper MIT#CD-6 CSX, 07293886, dated December 11, 2013

Certificate of calibration #131115 for Microscope, dated November 15, 2013

Corrective Action Reports

List of all (for nuclear) Corrective Action Reports (CARs) from 2013 & 2014

List of all (for nuclear) open CARs

CAR 13-029, dated February 20, 2013

CAR 13-035, dated March 1, 2013

CAR 13-050, dated May 14, 2013

CAR 13-062, dated June 20, 2013

CAR 13-069, dated July 9, 2013

CAR 13-074, dated July 26, 2013

CAR 13-077, dated August 9, 2013

CAR 13-078, dated August 9, 2013

CAR 13-079, dated August 12, 2013

CAR 13-082, dated August 13, 2013

CAR 13-086, dated September 12, 2013

CAR 13-087, dated September 12, 2013

CAR 13-088, dated September 12, 2013

CAR 13-089, dated September 12, 2013

CAR 13-090, dated September 16, 2013

CAR 13-096, dated October 11, 2013

CAR 13-097, dated October 16, 2013

CAR 13-100, dated October 18, 2013

CAR 13-102, dated October 29, 2013

CAR 13-113, dated November 8, 2013

CAR 13-114, dated November 8, 2013

CAR 13-115, dated November 11, 2013

CAR 13-116, dated November 11, 2013

CAR 13-117, dated November 11, 2013

CAR 13-118, dated November 11, 2013

CAR 13-119, dated November 11, 2013

CAR 13-120, dated November 11, 2013

CAR 13-121, dated November 11, 2013

CAR 13-123, dated November 11, 2013

CAR 14-007, dated February 6, 2014

CAR 14-010, dated February 6, 2014

CAR 14-020, dated March 7, 2014

CAR 14-048, dated April 14, 2014

CAR 14-050, dated April 15, 2014
CAR 14-052, dated April 15, 2014
CAR 14-056, dated April 15, 2014

Off Standard Reports

Off Standard Report 82361, dated May 20, 2014
List of all (for nuclear) Off Standard Reports (OSRs) from 2013 & 2014
List of all (for nuclear) open OSRs
OSR Trend Report (for nuclear) by type of issue for 2014
OSR 82033, dated January 27, 2014
OSR 82052, dated February 4, 2014
OSR 82053, dated March 3, 2014
OSR 82054, dated March 4, 2014
OSR 82065, dated February 20, 2014
OSR 82071, dated February 24, 2014
OSR 82080, dated February 10, 2014
OSR 82088, dated March 20, 2014
OSR 82089, dated February 26, 2014
OSR 82114, dated March 13, 2014
OSR 82138, dated March 17, 2014
OSR 82193, dated April 7, 2014
OSR 82195, dated April 7, 2014
OSR 82198, dated April 9, 2014
OSR 82200, dated April 9, 2014
OSR 82201, dated April 7, 2014
OSR 82202, dated April 7, 2014
OSR 82204, dated April 8, 2014
OSR 82207, dated April 11, 2014
OSR 82226, dated April 7, 2014
OSR 82228, dated April 7, 2014
OSR 82361, dated May 20, 2014

Faulty Material Reports

List of all (for nuclear) Faulty Material Reports (FMRs) from 2013 & 2014
FMR 11420, dated March 7, 2013
FMR 11246, dated March 25, 2013
FMR 11423, dated April 19, 2013
FMR 11251, dated May 13, 2013
FMR 11255, dated September 9, 2013
FMR 11256, dated September 9, 2013
FMR 11257, dated October 4, 2013
FMR 11258, dated January 27, 2014
FMR 11446, dated April 15, 2014
FMR 11261, dated April 30, 2014

New Condition Reports Generated

CAR No. 14-072, Corrective Action Report on “There are no controls over the use of the “Notice of Anomaly” form used in the EQ reports,” dated May 20, 2014

CAR 14-073, Corrective Action Report on “There are no controls over how returns are inspected when they are received at RSCC,” dated May 20, 2014

CAR 14-075, Corrective Action Report on “OSR’s for jacket defects have been trending upward over the past 3 months (13 in February, 24 in March, 30 in April, and 31 in May – through 5/20),” dated May 21, 2014

CAR 14-076, Corrective Action Report on “Trending of calibration results is not being documented in a controlled manner,” dated May 21, 2014

CAR 14-077, Corrective Action Report on “On the 835, the capstan pressure posting was not being followed by the operator,” dated May 21, 2014

CAR 14-078, Corrective Action Report on “Test reports for EQ testing supplied by outside sources do not have a documented review upon receipt,” dated May 21, 2014

CAR 14-079, Corrective Action Report on “PO 151975 for qualification testing did not go through the proper review process for nuclear orders (QA and Eng.),” dated May 21, 2014

CAR 14-080, Corrective Action Report on “TD-005418 has incorrect requirements for min bending radius and max pulling tensions. All three revisions contain these errors. Part 21 evaluation must be done,” dated May 22, 2014

CAR 14-081, Corrective Action Report on “There are a number of CGD items that do not have technical evaluations or dedication plans,” dated May 22, 2014

CAR 14-082, Corrective Action Report on “The 10CFR21 procedure (010SP004) does not contain all of the requirements, though our documents contains all of the required elements,” dated May 22, 2014

CAR 14-083, Corrective Action Report on “The CAR procedure (071SP008) does not include all NQA-1 requirements,” dated May 22, 2014

CAR 14-084, Corrective Action Report on “Production Supervisors do not have training records for the OSR procedure (072SP005), though they are dispositioning OSRs,” dated May 22, 2014

CAR 14-085, “Corrective Action Report on the use of L4 oil on the KXL-760 insulation, qualification is unknown, part 21 evaluation is required,” dated May 22, 2014

CAR 14-086, Corrective Action Report on “The audit performed by RSCC on Steris Isomedix in May 2011 showed that the calibration service used for their spectrophotometer was registered to the ISO 9001 standard by an Irish company,” dated May 22, 2014

CAR 14-087, Corrective Action Report on “Mirion Technologies claims 2133 & 2134 – cables returned for failing the customer’s pressure test,” dated May 22, 2014

New Work Orders Generated

Work order No. 1405-13431, “Air pressure gauge on the front payoff does not work,” dated May 22, 2014

Work order No. 1405-13432, “Air pressure gauge for the take up belt capstan needs mounting and repair,” dated May 22, 2014

Miscellaneous

Process Book 801 – Extruder

Process Book 835

RPS Nuclear Impact Form

- RPS-87A/KXL-760G Rev 19 1/25/10
- RPS-87A/KXL-760D Rev 9 1/15/10
- RPS-KS-550CV Rev1 9/15/03

PAR No. 07-04, Preventative Action Request (PAR), “At the jacket extrusion lines, there currently is no control on payoff capstan air pressure settings,” dated May 28, 2007

RSS-3-021, Firewall III, Single and Multi-conductor Cable, 300-2000 Volts 20 AWG-750 kcmil, Specification, Issue 15

E-2412, Technical Data Sheet specification, 1/C 2 AWG 7/.0974” Tinned Copper, .045 “FR-XLPE, .030” Black CSPE 600V, Revision 1

TD-005418 titled “Class 1E Nuclear safety related 90°C 600V 1/C 2AWG power cables,” Revision 2

TD-005418, Product Specification Drawing, “Class 1E Nuclear safety related 90°C 600V 1/C 2AWG power cables,” Revision 2

Rockbestos Products, Technical Bulletin #28, “Bending Radii & Installation Practices,” Revision 5

ASTM Designation: B8-11, Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft, pages 15-16, 2011 version

Rockbestos-Surprenant Co., manufacturing process sheet, dated September 29, 2006
RPS-98, RSCC Wire & Cable LLC, Purchase specification, Revision 8, dated May 11, 2014

125 –P-7 “600 V Single and Multiple Conductor Flame Retardant Power Control,” dated January 28, 1998

ICEA S-66-524, shop order number 742798, dated November 26, 2013

Drawing TD-005418, "Class 1E Nuclear Safety Related 90 degrees C 600V 1/C 2 AWG Power Cable," Revision 1-Jkt, dated December 21, 2009

Final Inspection Data for Shop Order #822995, dated May 20, 2014

Maintenance History Reports on machines 261, Jacket Mold C (835), and 801 for 2013 and 2014

Management Review Board meeting minutes from February 20, 2014, March 20, 2014, and April 24, 2014

Preventative Action Log from 2013 and 2014

10 CFR Part 21 Notification Package, dated May 30, 2012

10 CFR Part 21 Evaluation Package (which determined not reportable), dated November 30, 2011

List of All Customer Claims (for nuclear) from 2013 and 2014

Customer Claim No. 2206, for jacket defect, return from TVA Watts Bar 2

5. **ACRONYMS USED:**

ADAMS	Agencywide Documents Access and Management System
AWG	American Wire Gauge
C	conductor
CAR	corrective action request
CFR	Code of Federal Regulations
CGD	commercial grade dedication
CV	continuous vulcanization
EQ	equipment qualification
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IP	inspection procedure
LOCA	loss of coolant accident
NON	Notice of Nonconformance
NOV	Notice of Violation
NRC	Nuclear Regulatory Commission
PO	purchase order
QA	quality assurance
RSCC	Rockbestos Suprenant Cable Corporation