



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 15, 2024

Ms. Megan Strong  
Quality Manager  
TE Connectivity  
8000 Purfoy Road  
Fuquay-Varina, NC 27526

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT OF  
TE CONNECTIVITY NO. 99902123/2024-201, AND NOTICE OF  
NONCONFORMANCE

Dear Ms. Strong:

On April 8 - 12, 2024, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the TE Connectivity's facility (hereafter referred to as TEC) in Fuquay-Varina, NC. The purpose of this limited-scope routine inspection was to assess TEC's compliance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance," and selected portions of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."

This technically-focused inspection specifically evaluated TEC's implementation of quality activities associated with the design, manufacturing, and testing of safety-related Raychem products for U.S. nuclear power plants. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute NRC's endorsement of TEC's overall quality assurance (QA) or 10 CFR Part 21 programs.

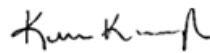
During this inspection, the NRC inspection team found that the implementation of your QA program did not meet certain regulatory requirements imposed on you by your customers or NRC licensees. Specifically, the NRC inspection team determined that TEC was not fully implementing its QA program in the areas of control of purchased materials, equipment, and services, and corrective action. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter. In response to the enclosed Notice of Nonconformance (NON), TEC should document the results of the extent of condition review for these findings and determine if there are any effects on other safety-related components.

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

In accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's document system (ADAMS), accessible at <http://www.nrc.gov/readingrm/>

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, 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 be 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 would 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, "Protection of safeguards information: performance requirements."

Sincerely,



Signed by Kavanagh, Kerri  
on 05/15/24

Kerri A. Kavanagh, Chief  
Quality Assurance and Vendor Inspection Branch  
Division of Reactor Oversight  
Office of Nuclear Reactor Regulation

Docket No.: 99902123

EPID No.: I-2024-201-0020

Enclosures:

1. Notice of Nonconformance
2. Inspection Report No. 99902123/2024-201  
and Attachment

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT OF  
TE CONNECTIVITY NO. 99902123/2024-201, AND NOTICE OF  
NONCONFORMANCE DATE: May 15, 2024

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**NRR-106**

<b>OFFICE</b>	NRR/DRO/IQVB	NRR/DRO/IQVB	NRR/DRO/IQVB
<b>NAME</b>	YDiaz-Castillo	DPark	FVega
<b>DATE</b>	5/7/2024	5/7/2024	5/7/2024
<b>OFFICE</b>	NRR/DRO/IQVB	NRR/DRO/IRAB	NRR/DRO/IQVB
<b>NAME</b>	YLaw	BHughes	KKavanagh
<b>DATE</b>	5/7/2024	5/8/2024	5/15/2024

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## NOTICE OF NONCONFORMANCE

TE Connectivity  
8000 Purfoy Road  
Fuquay-Varina, NC 27526

Docket No. 99902123  
Report No. 2024-201

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the TE Connectivity's (hereafter referred to as TEC) facility in Fuquay-Varina, NC, from April 8, 2024 through April 12, 2024, TEC did not conduct certain activities in accordance with NRC requirements that were contractually imposed upon TEC by its customers or NRC licensees:

- A. Criterion VII, "Control of Purchased Material, Equipment, and Services," 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, in part, that "Measures shall be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery. [...] The effectiveness of the control of quality by contractors and subcontractors shall be assessed by the applicant or designee at intervals consistent with the importance, complexity, and quantity of the product or services."

TEC's procedure No. EP/02, "Sampling Guidelines for Inspecting Nuclear Energy Products," Revision M, dated February 15, 2022, states, in part, that "[...]Normal Plan[...] shall be selected for sample size of parts and kits (inspection and dedication) based on control of compound formulation, intercompany manufacturing (shares same quality manual) and satisfactory results of the supplier audits and surveys."

Contrary to the above, as of April 12, 2024, TEC failed to establish adequate measures for source evaluation and selection to verify the effectiveness of the control of quality by contractors and subcontractors to assure that purchased products conform to the procurement documents. Specifically, TEC has not performed a commercial-grade survey of the commercial suppliers of spring clamps, ground braid, grease, and insulation covers to verify that the commercial suppliers had established adequate homogeneity and traceability controls (e.g., heat traceability, lot and batch control) and that these controls were being effectively implemented to support TEC's selected sample plans. The adequate verification and implementation of a commercial supplier's homogeneity and traceability controls for the control of the critical characteristics is necessary to provide reasonable assurance that commercial-grade items to be used as basic components will perform their intended safety function.

This issue has been identified as Nonconformance 99902123/2024-201-01.

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

Section 9.2.2 of TEC's Quality Assurance Manual (QAM) No. TEC-1000, "Global Quality Management System," Revision J, dated January 2, 2024, states, in part, that "Corrective actions shall be addressed without undue delay. Follow-up assessment activities shall verify and record the implementation and effectiveness of the corrections and corrective actions taken."

Section 3.1 of TEC's procedure No. TEC-1035, "Corrective and Preventive Action Process," Revision B1, dated February 18, 2013, states that the "Implementation of the Corrective and Preventive Action Process should be done in accordance with Manual TEC-402-30."

Section 4.2 of TEC's procedure No. TEC-402-30, "Corrective and Preventive Action Process," Revision F, dated November 17, 2010, describes the eight steps involved in the corrective action process. Step six states "Implement and verify the correction action," while step seven states "Prevent recurrence."

Contrary to the above, as of April 12, 2024, TEC failed to assure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Specifically, TEC closed several TE Complaint Handling System (TECHS) reports without adequately implementing corrective actions and kept one TECHS report opened without taking any corrections actions to assure that conditions adverse to quality are promptly identified and corrected:

This issue has been identified as Nonconformance 99902123/2024-201-02.

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, Quality Assurance and Vendor Inspection Branch, Division of Reactor Oversight, Office of Nuclear Reactor Regulation, 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 further noncompliance; and (4) the date when the corrective actions will be completed. Where good cause is shown, the NRC will consider extending the response time.

In accordance with the requirements of 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," of the NRC's "Rule of Practice," your response will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's 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 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, "Protection of safeguards information: performance requirements."

Dated this 15th day of May 2024.

**U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION  
DIVISION OF REACTOR OVERSIGHT  
VENDOR INSPECTION REPORT**

Docket No.: 99902123

Report No.: 99902123/2024-201

Vendor: TE Connectivity  
8000 Purfoy Road  
Fuquay-Varina, NC 27526

Vendor Contact: Ms. Megan Strong  
Quality Manager  
Email: mstrong@te.com  
Phone: (919) 557-8517

Nuclear Industry Activity: TE Connectivity's scope of supply includes safety-related Raychem products such as heat shrink tubing, molded parts, cable sealing kits, jacket repair kits, wire splices, adhesive tapes, and related items for U.S. nuclear power plants.

Inspection Dates: April 8 - 12, 2024

Inspectors: Yamir Diaz-Castillo NRR/DRO/IQVB Team Leader  
Dong Park NRR/DRO/IQVB  
Frankie Vega NRR/DRO/IQVB  
Yiu Law NRR/DRO/IQVB Remote

Approved by: Kerri A. Kavanagh, Chief  
Quality Assurance and Vendor Inspection Branch  
Division of Reactor Oversight  
Office of Nuclear Reactor Regulation

## EXECUTIVE SUMMARY

TE Connectivity  
99902123/2024-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a limited-scope routine vendor inspection at the TE Connectivity's (hereafter referred to as TEC) facility in Fuquay-Varina, NC, to verify that it had 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." The NRC inspection team conducted this inspection on-site on April 8 - 12, 2024. This was the first NRC inspection of TEC at this facility.

This technically-focused inspection specifically evaluated TEC's implementation of quality activities associated with the design, manufacturing, and testing of Raychem products (e.g., heat shrink tubing, molded parts, cable sealing kits, jacket repair kits, wire splices, adhesive tapes) for U.S. nuclear power plants. Specific activities observed by the NRC inspection team included:

- Kit assembly activities associated with a nuclear motor connection kit for item number A40196-000 NMCK-2L (N) for work order No. 01311969. The safety-related parts assembled as part of this kit included conductor shims, bolt pads, and outer sealing sleeves.

These regulations served as the bases for the NRC inspection:

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

During this inspection, the NRC inspection team implemented Inspection Procedure (IP) 43002, "Routine Inspections of Nuclear Vendors," dated February 10, 2023; IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated February 10, 2023; and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 10, 2023.

With the exception of the nonconformances described below, the NRC inspection team concluded that TEC's QA policies and procedures comply with the applicable requirements of Appendix B to 10 CFR Part 50 and 10 CFR Part 21, and that TEC's personnel are implementing these policies and procedures effectively. The results of this inspection are summarized below.

### Supplier Oversight

The NRC inspection team issued Nonconformance 99902123/2024-201-01 in association with TEC's failure to implement the regulatory requirements of Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50. Nonconformance 99902123/2024-201-01 cites TEC for failing to perform source evaluation and selection to verify the effectiveness of the control of quality by contractors and subcontractors to ensure that purchased services conform to the procurement documents. Specifically, TEC did not perform commercial-grade surveys of several commercial suppliers for components used in safety-related applications.



### Corrective Action

The NRC inspection team issued Nonconformance 99902123/2024-201-02 in association with TEC's failure to implement the regulatory requirements of Criterion XVI of Appendix B to 10 CFR Part 50. Nonconformance 99902123/2024-201-02 cites TEC for failing to assure that conditions adverse to quality are promptly identified and corrected. Specifically, TEC closed the TE Complaint Handling System (TECHS) reports without adequately implementing the corrective actions. In addition, one TECHS report remained opened without any corrections actions being taken.

### Other Inspection Areas

The NRC inspection team determined that TEC established its programs for design control, commercial-grade dedication, procurement document control, material traceability, control of measuring and test equipment, nonconformances, and internal audits, in accordance with the applicable regulatory requirements of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed and activities observed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with these programs. In addition, the NRC inspection team determined that TEC is implementing its 10 CFR Part 21 program for evaluating deviations and reporting defects that could create a substantial safety hazard in accordance with the applicable regulatory requirements. No findings of significance were identified in these areas.

## REPORT DETAILS

### 1. Commercial-Grade Dedication, Procurement Document Control, and Supplier Oversight

#### a. Inspection Scope

The U.S. Nuclear Regulatory Commission (NRC) inspection team reviewed TE Connectivity's (hereafter referred to as TEC) policies and implementing procedures that govern the implementation of its commercial-grade dedication (CGD), procurement document control, and supplier oversight programs to verify compliance with the regulatory requirements of Criterion III, "Design Control," Criterion IV, "Procurement Document Control," and Criterion VII, "Control of Purchased Material, Equipment, and Services," 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." The NRC inspection team reviewed a sample of purchase orders (POs), TEC's Approved Suppliers List (ASL), audit reports, commercial-grade surveys, annual evaluations, technical evaluations, and test reports.

TEC's facility in Fuquay-Varina, NC, supplies safety-related Raychem components, accessories, and kits (e.g., heat shrink tubing, molded parts, splice kits, tapes,) to U.S. nuclear power plants. These components are manufactured from raw material (compound) that is supplied by another TEC facility located in Swindon, UK, which is a commercial facility. The only component procured as safety-related by TEC's facility in Fuquay-Varina, NC, is the heat shrink tubing, which is supplied by another TEC facility located in Ottobrunn, Germany. The other components and accessories are procured from commercial suppliers, including other TEC facilities located in Juarez, Mexico, and Tijuana, Mexico, and dedicated. Calibration and testing services are also dedicated using the International Laboratory Accreditation Cooperation (ILAC) process and by performing commercial-grade surveys, respectively. Consequently, TEC only issues safety-related POs to the TEC facility in Ottobrunn, Germany, and only conducts audits of this facility.

The NRC inspection team reviewed TEC's program for the dedication of commercial-grade items for use in safety-related applications to verify its compliance with the applicable regulatory requirements. This assessment included a review of the policies and procedures governing the implementation of CGD activities, interviews with TEC's personnel, and a review of related documentation. Specifically, the NRC inspection team reviewed a sample of POs, technical evaluations, commercial-grade surveys, and test reports for the CGD of the following components and services: compound grease, fiberglass sleeve, insulation covers, spring clamps, ground braids, and material composition testing. The NRC inspection team evaluated the criteria for the identification of item functions, credible failure mechanisms/modes, selection of critical characteristics and acceptance criteria, and the identification of verification methods to verify effective implementation of TEC's CGD process.

The NRC inspection team also reviewed TEC's measures for using the ILAC accreditation process in lieu of performing commercial-grade surveys for the procurement of calibration services as part of the CGD process. TEC implements this process as described in the Nuclear Energy Institute document No. 14-05A, "Guidelines for the Use of Accreditation in Lieu of Commercial Grade Surveys for Procurement of

Laboratory Calibration and Test Services,” Revision 1, dated September 2020, which was recognized for use by the NRC in a safety evaluation dated November 23, 2020 (Agencywide Documents Access Management System Accession No. ML20322A019).

The NRC inspection team also reviewed the training and qualification records of lead auditors and auditors and confirmed that auditing personnel had completed all the required training and had maintained the applicable qualification and certification in accordance with TEC’s policies and procedures.

The NRC inspection team discussed the CGD, procurement document control, and supplier oversight programs with TEC’s management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

The NRC inspection team identified one nonconformance and several minor issues associated with TEC’s implementation of its supplier oversight and CGD programs. The nonconformance and the minor issues are described below.

Nonconformance 99902123/2024-201-01

TEC’s CGD procedure No. ENG-AM-307-00003-01, “Nuclear Dedication Process,” Revision M, dated April 14, 2022, establishes the process for the CGD of items identified for safety-related nuclear use. This procedure lists the items and the acceptance methods, which include a combination of special tests and inspections (Method 1), and commercial-grade surveys (Method 2). This procedure also references TEC’s procedure No. EP/02, “Sampling Guidelines for Inspecting Nuclear Energy Products,” Revision M, dated February 15, 2022, for the selection of the sample size. During the review of a sample of CGD documentation, the NRC inspection team noted that TEC implements sampling plans based on the Electric Power Research Institute (EPRI) Technical Report (TR) No. 017218-R1, “Guideline for Sampling in the Commercial-Grade Item Acceptance Process,” dated January 1999, for the verification of critical characteristics (e.g., dimensions, material composition, dielectric strength, tensile strength, flammability). The technical basis for the selection of the sampling plan is documented in TEC’s procedure No. EP/02. TEC’s procedure No. EP/02 states, in part, that “[ ]Normal Plan[ ] shall be selected for sample size of parts and kits (inspection and dedication) based on control of (1) compound formulation, (2) intercompany manufacturing (shares same quality manual) and (3) satisfactory results of the supplier audits and surveys.” TEC uses the guidance in EPRI TR-017218-R1 for choosing sample plans for both destructive and non-destructive testing to verify the applicable critical characteristics to ensure the components will perform their intended safety function.

The NRC inspection team requested TEC to provide the commercial-grade surveys performed on the commercial suppliers of the spring clamps, ground braid, grease, and insulation covers as the technical basis (1) and (2) listed above would not be applicable to these commercial suppliers. The technical basis (1) and (2) listed above do not apply because these suppliers are not providing components manufactured with the compound and are not TEC companies. TEC stated that they haven’t performed any commercial-grade surveys of these commercial suppliers. The purpose of performing commercial-grade surveys is to verify that the commercial suppliers had established

adequate homogeneity and traceability controls (e.g., heat traceability, lot and batch control) and that these controls were being effectively implemented to support TEC's selected sample plans. The adequate verification and implementation of a commercial supplier's homogeneity and traceability controls for the control of the critical characteristics is necessary to provide reasonable assurance that commercial-grade items to be used as basic components will perform their intended safety function.

The NRC inspection team identified this issue as Nonconformance 99902123/2024-201-01 for TEC's failure to establish adequate measures for source evaluation and selection to verify the effectiveness of the control of quality by contractors and subcontractors to assure that purchased products conform to the procurement documents.

### Minor Issues

1. The NRC inspection team identified that TEC's ASL is not a controlled document under TEC's Quality Assurance (QA) program to ensure that it is reviewed for adequacy and approved for release by authorized personnel. TEC's procedure No. ENG-AM-307-00002-01, "Nuclear Audits," Revision C, dated June 7, 2019, states, in part, that "Energy shall develop and maintain Approved Supplier List (ASL) containing the list of suppliers (Internal and External) to nuclear program and schedule their audit activities." However, the NRC inspection noted that the ASL does not include the following information: (1) all of TEC's external and internal suppliers; (2) a revision No. to show that it is adequately controlled; (3) information on when the next audit or commercial-grade survey is due; (4) the QA manual that was approved by TEC; and (5) any limitations imposed by TEC, as applicable. The NRC inspection team determine this issue to be minor because it is a documentation issue and there is no known impact on the components and services supplied to TEC. TEC did not initiate a TE Complaint Handling System (TECHS) to address this issue prior to the conclusion of the inspection.
2. TEC's procedure No. ENG-AM-307-00003-01, "Nuclear Dedication Process," Revision M, dated April 14, 2022, establishes the process for the CGD of commercial items and lists the items that are dedicated by TEC. The NRC inspection team noted that this procedure contains outdated and/or incorrect information. For example, the procedure references other procedures that have been discontinued and it also lists commercial suppliers that are not in use anymore for procuring some of the items dedicated by TEC for use in safety-related applications. The NRC inspection team determine this issue to be minor because it is a documentation issue and the outdated and/or incorrect information did not impact the CGD process of the commercial items. TEC did not initiate a TECHS to address this issue prior to the conclusion of the inspection.
3. During the review of the commercial-grade survey of a supplier of testing services, the NRC inspection team noted that the commercial-grade survey report included a table that listed the critical characteristics required to be verified. However, the critical characteristics listed in this table were the chemical elements the testing supplier was required to test for, and not the critical characteristics for the CGD of testing services as listed in TEC's procedure No. ENG-AM-307-00001-01, "Commercial Grade Dedication Plan for Testing Services & Calibration Services of Measuring & Test Equipment (M&TE)," Revision F, dated March 23, 2023. The NRC inspection team determined this issue to be minor because it is a documentation

issue and TEC verified the appropriate critical characteristics during the commercial-grade survey of the testing services supplier. TEC did not initiate a TECHS to address this issue prior to the conclusion of the inspection.

4. The NRC inspection team asked to review the calibration certificate of a micrometer with gage No. 51753. This micrometer was used to verify one of the dimensional critical characteristics during the CGD of spring clamps, as documented in the Quality Test Report. The NRC inspection team noted that the calibration certificate described gage No. 51753 as an Alternating Current Dielectric Test Set and that because it was damaged, it was removed from service in 2019. Further investigation by TEC revealed that the calibration sticker contained an error and identified the gage as No. 51753, when the correct gage No. listed in the Quality Test Report and the calibration sticker should have been No. 51573. The NRC inspection team confirmed that the calibration certificate for gage No. 51573 was for the micrometer used in the CGD of the spring clamps. The NRC inspection team determined this issue to be minor because it is a documentation issue in the Quality Test Report and the correct gage was used to perform the dimensional measurement as part of the CGD of the spring clamps. TEC initiated TECHS No. 1615436 to address this issue.

c. Conclusion

The NRC inspection team concluded that TEC is implementing its design control and procurement document control programs in accordance with the regulatory requirements of Criterion III and Criterion IV of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with the procurement document control and CGD programs. No findings of significance were identified.

The NRC inspection team issued Nonconformance 99902123/2024-201-01 in association with TEC's failure to implement the regulatory requirements of Criterion VII of Appendix B to 10 CFR Part 50. Nonconformance 99902123/2024-201-01 cites TEC for failing to perform source evaluation and selection to verify the effectiveness of the control of quality by contractors and subcontractors to ensure that purchased services conform to the procurement documents. Specifically, TEC did not perform commercial-grade surveys of several commercial suppliers for components used in safety-related applications.

2. Nonconforming Materials, Parts, or Components and Corrective Action

a. Inspection Scope

The NRC inspection team reviewed TEC's policies and implementing procedures that govern the implementation of its nonconforming materials, parts, or components and corrective programs to verify compliance with the requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50.

The NRC inspection team verified that TEC's processes and procedures provide for the identification, documentation, segregation, evaluation, and disposition of nonconforming items. These processes apply the principles of repair, rework, or "use as-is."

The NRC inspection team observed TEC's assembly floor operations and verified that nonconforming materials, parts, or components were properly identified, marked, and segregated, when practical, to ensure that they were not reintroduced into the production processes. The NRC inspection team reviewed a sample of nonconformance reports (NCRs) and confirmed that TEC dispositioned the nonconforming items in accordance with TEC's applicable procedures and documented an appropriate technical justification for various dispositions. In addition, the NRC inspection team confirmed that the nonconformance process provides a link to TEC's 10 CFR Part 21, "Reporting of Defects and Noncompliance," program.

The NRC inspection reviewed a sample of TECHS to verify they contained, as applicable: (1) adequate documentation and description of conditions adverse to quality; (2) an appropriate analysis of the cause of these conditions and the corrective actions taken to prevent recurrence; (3) direction for review and approval by the responsible authority; (4) a description of the current status of the corrective actions; and (5) the actions taken to verify timely and effective implementation of the corrective actions.

The NRC inspection team also discussed the nonconforming materials, parts, or components and corrective action programs with TEC's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

The NRC inspection team identified one nonconformance associated with TEC's implementation of its corrective action program. The nonconformance is described below.

Nonconformance 99902123/2024-201-02

During the review of a sample of TECHS reports, the NRC inspection team identified multiple examples in which TEC had not been adequately implementing its corrective action program. The NRC inspection team identified that TEC closed the TECHS reports described below without adequately implementing the corrective actions. In addition, one TECHS report remained opened without any corrections actions being taken. This condition was identified in two more internal audits with TEC corrective actions as described below.

1. TEC initiated TECHS report No. 1447820 in 2019 to address its failure to have guidance on imposing the commercial supplier's Quality Assurance (QA) program or other controls verified during a commercial-grade survey in the purchase orders (POs). TECHS report No. 1447820 stated, in part, that TEC procedure No. ENG-AM-307-00006-01, "Control of Procurement of Products and Services for Nuclear Program," Revision A, dated June 4, 2019, would be updated to include guidance for imposing a commercial supplier's QA program in the procurement documents. TECHS report No. 1447820 also stated that for preventing recurrence, there were no outstanding POs or any other POs at the time for items or services. TECHS report No. 1447820 was closed because TEC updated procedure No. ENG-AM-307-00006-01. Following the update to procedure No. ENG-AM-307-00006-01, the NRC inspection team identified several examples of POs issued to commercial suppliers for items and services as part of the dedication process (e.g., spring clamps,

blocking ground braid, grease, fiberglass sleeve, insulating covers, testing services), that did not impose the commercial supplier's QA program or other controls, as necessary.

2. TEC initiated TECHS report No. 1557315 in 2022 to address its failure to: (1) incorporate the requirements of the Nuclear Energy Institute (NEI) document No. 14-05, "Guidelines for the Use of Accreditation in Lieu of Commercial Grade Surveys for Procurement of Laboratory Calibration and Test Services," Revision 1, dated September 2020, into TEC procedures No. ENG-AM-307-00006-01, and No. ENG-AM-307-00001-01, "Commercial Grade Dedication Plan for Testing Services & Calibration Services of Measuring & Test Equipment (M&TE)," Revision F, dated June 30, 2022; (2) impose the applicable requirements from Revision 1 of NEI 14-05A in the POs; and (3) verify, at receipt inspection, that the laboratory's documentation certifies that the PO requirements were met. TECHS report No. 1557315 stated, in part, that TEC procedures No. ENG-AM-307-00006-01, and No. ENG-AM-307-00001-01 would be updated to be in compliance with Revision 1 of NEI 14-05A. TECHS report No. 1557315 also stated that for preventing recurrence, new revisions of documentation will be reviewed to determine impacts to procedures and updates will be made accordingly. TEC closed TECHS report No. 1557315 upon completion of updating procedures No. ENG-AM-307-00006-01, and No. ENG-AM-307-00001-01. However, the NRC inspection team identified several POs issued to calibration laboratories that did not include the applicable requirements from Revision 1 of NEI 14-05A after these procedures were updated. In addition, the NRC inspection team identified that there is no objective evidence that TEC verified that the laboratories' documentation certified that the PO requirements were met.
3. TEC initiated TECHS report No. 1557318 in 2022 to address significant conditions adverse to quality (SCAQ) in TEC's Quality Assurance Manual (QAM) No. TEC-1000, TEC's QAM Supplement No. TEC-1021, "Global Quality Management System Supplement for Various International Nuclear Quality Assurance Criteria, Regulations, and Requirements," and TEC's procedure No. TEC-1035. TECHS report No. 1557318 stated, in part, that Section 8.3 of TEC's QAM Supplement No. TEC-1021 would be updated to clarify the definition of a SCAQ. TECHS report No. 1557318 also stated that for preventing recurrence, TEC would perform reviews of revisions of controlling documents to ensure flow down of TEC documentation. TECHS report No. 1557318 was closed after TEC updated procedure No. TEC-1021. The NRC inspection team identified that TEC did not implement any additional corrective actions to provide guidance on how to identify and process a SCAQ in the QAM supplement No. TEC-1021 and in the corrective action procedures, TEC-1035 and TEC-402-30. The NRC inspection team also identified that there is no objective evidence that TECHS reports are being screened to determine if they should be classified as conditions adverse to quality or SCAQ.
4. TEC initiated TECHS report No. 1557358 in 2022 to address its failure to evaluate for 10 CFR Part 21, "Reporting of Defects and Noncompliance," applicability in the TECHS reports. TECHS report No. 1557358 stated, in part, that because the TECHS system does not have an automated method for documenting the applicability of 10 CFR Part 21, TEC's quality personnel would manually document this process in the TECHS report. TECHS report No. 1557358 also stated that for preventing recurrence, TEC would perform an audit of all the TECHS reports. TECHS report No. 1557358 was closed when TEC began to implement the manual process. However,

the NRC inspection team identified that there was no objective evidence demonstrating that TECHS reports were being reviewed for 10 CFR Part 21 applicability, or that an audit of all the TECHS reports had been performed. The NRC inspection team also determined that there was no guidance in the QAM supplement No. TEC-1021 or in the corrective action procedures, TEC-1035 and TEC-402-30, on how to implement and document the manual process.

5. TEC initiated TECHS report No. 1557316 in 2022 to address its failure to: (1) perform an audit of a safety-related supplier and commercial-grade surveys of two commercial suppliers within the required 3 year frequency; and (2) having guidance in TEC procedure No. ENG-AM-307-00002-01, "Nuclear Audits," Revision C, dated June 7, 2019, that incorrectly allows for the frequency of audits and commercial-grade surveys to be extended for 9 months and 12 months, respectively, outside of exigent conditions. While TECHS report No. 1557316 is still open, the NRC inspection team noted that this TECHS only had a description of the problem with no additional information as required by TEC-402-30 (e.g., permanent corrective action plan), and TEC procedure No. ENG-AM-307-00002-01 still hasn't been updated. The NRC inspection team also noted that this issue was identified during the 2023 and 2024 internal audits, and TEC opened additional TECHS report Nos. 1589141 and 1614852 to address the same issue, which were still open as of April 12, 2024. The NRC inspection team also identified that these additional TECHS reports only contained a description of the problem and did not document a permanent corrective action plan, or when the audit and commercial-grade surveys would be conducted. In addition, the NRC inspection team identified that TEC did not take additional corrective actions to provide additional oversight to the components provided by these suppliers until the audits and commercial-grade surveys are conducted.

The NRC inspection team identified these issues as Nonconformance 99902123/2024-201-02 for TEC's failure to promptly identify and correct conditions adverse to quality.

c. Conclusion

The NRC inspection team concluded that TEC is implementing its nonconforming materials, parts, or components program in accordance with the regulatory requirements of Criterion XV of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with the nonconforming materials, parts, or components program. No findings of significance were identified.

The NRC inspection team issued Nonconformance 99902123/2024-201-02 in association with TEC's failure to implement the regulatory requirements of Criterion XVI of Appendix B to 10 CFR Part 50. Nonconformance 99902123/2024-201-02 cites TEC for failing to assure that conditions adverse to quality are promptly identified and corrected. Specifically, TEC closed the TECHS reports without adequately implementing the corrective actions. In addition, one TECHS report remained opened without any corrections actions being taken.



### 3. Design Control

#### a. Inspection Scope

The NRC inspection team reviewed TEC's policies and implementing procedures that govern the implementation of its design control program to verify compliance with the regulatory requirements of Criterion III of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed TEC's processes for performing design and configuration control, including design reviews and design changes. The NRC inspection team reviewed a sample of PO's, work orders (WOs), Energy Development Reports (EDRs), Specification Control Documents (SCD) and Product Performance Specifications (PPS), associated with the design of TEC's nuclear components. EDRs are used by TEC to document test results (e.g., qualification tests). SCDs are used to specify nuclear product dimensions and PPS defined a specific set of attributes and tests associated with each compound used in nuclear applications.

The NRC inspection team reviewed how the nuclear kits are configured. Nuclear kits are typically composed of a variety of components including sealants, molded part, tubes, etc., in order to create an electrical insulation system. The NRC inspection team reviewed several completed nuclear kit configuration packages which included design parameters, qualification test data, engineering analysis, methodologies, specifications, and assembly instructions associated with the configuration of the safety-related nuclear kits.

The NRC inspection team also reviewed the design control process for the nuclear compound formulation. The NRC inspection team confirmed that TEC's process for performing design changes included the purpose of each design change, method of conduct, verification, and documentation of the results.

The NRC inspection team reviewed a sample of design changes made on compounds T1496 (nuclear tubing and tape), T188 (nuclear tubing), and T-446 (molded parts). These changes were all considered minor in accordance with TEC's design procedures. The NRC inspection team reviewed: (1) the technical basis used to determine these changes were minor; (2) several EDRs developed to support these changes; and (3) the process followed to document and track these changes. The NRC inspection team also reviewed a sample of PPS associated with the compounds referenced above. The NRC inspection team reviewed the equivalency evaluations performed against the PPS used to justify how the design changes were categorized as minor.

The NRC inspection team confirmed that the design review process was conducted in accordance with TEC's implementing procedures, and the results of design reviews were adequately documented.

The NRC inspection team also discussed the design control program with TEC's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

#### b. Observations and Findings

During the review of TEC's procedure No. ENG-AM-307-00005-1, "Design Changes to Energy's Nuclear Compounds," Revision B, dated February 20, 2020, the NRC

inspection team noted that the guidance for developing the nomenclature of new trial compound formulation was not consistent with the compound formulation nomenclature used in TEC's manufacturing facility in Swindon, UK. All the nuclear compounds are manufactured in the Swindon, UK facility; however, the formulation of these compounds was controlled at the TEC facility in Fuquay-Varina, NC. The NRC inspection team determined this issue to be minor because it is a documentation issue and the official logbook tracking the compound formulations references the correct formulation numbers and are consistent between the TEC's manufacturing facilities in Swindon, UK and Fuquay-Varina, NC.

The NRC inspection team also noted that TEC's procedure No. ENG-AM-307-00005-1 references TEC's procedure No. 12940109, "Product Performance Specifications (PPS) - Energy." TEC's procedure No. 12940109 was used when changes to the compound PPS are required. When discussing TEC's procedure No. 12940109 with TEC's staff, the NRC inspection team learned that this procedure has been discontinued and is no longer in use. TEC's procedure No. ENG-AM-307-00005-1 needs to be updated to reference a new procedure that accurately reflects how changes to the compound PPS are controlled. The NRC inspection team determined this issue to be minor because it is a documentation issue and there haven't been any major changes to the compound PPS in more than 20 years.

c. Conclusion

With the exception of the minor issues identified above, the NRC inspection team concluded that TEC is implementing its design control program in accordance with the regulatory requirements of Criterion III of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with the design control program. No findings of significance were identified.

4. Material Traceability

a. Inspection Scope

The NRC inspection team reviewed TEC's policies and implementing procedures that govern the implementation of its material traceability program to verify compliance with the regulatory requirements of Criterion VIII, "Identification and Control of Materials, Parts, and Components," of Appendix B to 10 CFR Part 50.

The NRC inspection team performed a walk-down of TEC's nuclear manufacturing and assembly areas. In these areas TEC performed coating, cutting, kitting, packaging and final inspection activities associated with TEC's nuclear components.

The NRC inspection team witnessed the kit assembly associated with a nuclear motor connection kit (item No. A40196-000 NMCK-2L (N), WO No. 01311969). The nuclear parts assembled as part of the kit included conductor shims, bolt pads, and outer sealing sleeves. The NRC inspection team witnessed how the TEC field technicians maintained traceability throughout the kit assembly process by verifying the lot numbers of each kit part, verifying the item lot numbers are correct per the work orders, and creating labels of the final kit assembly packages.

The NRC inspection team confirmed that materials were adequately identified with TEC's unique identification code, which was traceable to the POs, WOs and Certificates of Conformance. The NRC inspection team verified that TEC personnel appropriately maintained the material identification and traceability markings during various stages of fabrication.

The NRC inspection team discussed the material traceability program with TEC's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observation and Findings

During the review of TEC's procedure No. 12940107, "QA Training for Non-QA Personnel," Revision A, dated February 11, 2003, the NRC inspection team noted that this procedure defined non-QA personnel as those individuals performing in-process inspection (i.e., QA field technicians). However, the NRC inspection team identified that TEC's procedure No. 12940107 did not include guidance on the training and qualification requirements applicable to other non-QA personnel such as product engineers, product managers, and materials engineers.

The NRC inspection team considered this issue to be minor because there are not any known impacts on the components supplied by TEC and based on discussions and interviews conducted during the week of the inspection, non-QA personnel (i.e., product engineers, product manager and materials engineers) were knowledgeable in their specific technical areas.

c. Conclusion

With the exception of the minor issue identified above, the NRC inspection team concluded that TEC is implementing its material traceability program in accordance with the regulatory requirements of Criterion VIII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with the material traceability program. No findings of significance were identified.

5. Control of Measuring and Test Equipment

a. Inspection Scope

The NRC inspection team reviewed TEC's policies and implementing procedures that govern the implementation of its M&TE program to verify compliance with the requirements of Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50. For a sample of M&TE, the NRC inspection team determined that M&TE had the appropriate calibration stickers and current calibration dates, including the calibration due date except as described in the observation below. The NRC inspection team also verified that the M&TE had been calibrated, adjusted, and maintained at prescribed intervals prior to use. In addition, the calibration records reviewed by the NRC inspection team indicated the as-found or as-left conditions, accuracy required, calibration results, calibration dates, and the due date for recalibration. Furthermore, the NRC inspection team verified that the selected M&TE was calibrated using procedures traceable to known industry standards. TEC's M&TE

approved for nuclear use were identified with an “Approved for Nuclear Use” label. The NRC inspection team confirmed that the applicable TEC procedure No. ENG-FV-305-00005-01, “Calibration System Summary Procedure,” Revision G, dated June 14, 2023, contained guidance for when M&TE was found to be out of calibration. The procedure stated that if M&TE is found to be out of calibration, TEC will proceed to identify items that have been accepted using this M&TE since the last valid calibration date and perform an extent of condition review.

The NRC inspection team also discussed the M&TE program with TEC’s management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that TEC is implementing its M&TE program in accordance with the regulatory requirements of Criterion XII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with the M&TE program. No findings of significance were identified.

6. Internal Audits

a. Inspection Scope

The NRC inspection team reviewed TEC’s policies and implementing procedures that govern the implementation of its internal audits program to verify compliance with the requirements of Criterion XVII, “Audits,” of Appendix B to 10 CFR Part 50.

For the sample of internal audits reviewed, the NRC inspection team verified that the audit reports included: (1) an audit plan; (2) audit results; (3) adequately documented objective evidence with the applicable requirements; and (4) a review by TEC’s responsible management. The NRC inspection team verified that the internal audits were performed by qualified auditors who were not auditing their own work and that the internal audits were performed using the appropriate checklists. The NRC inspection team also verified that TEC adequately initiated corrective actions for any findings identified during the internal audits.

The NRC inspection team also discussed the internal audits program with TEC’s management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that TEC is implementing its internal audits program in accordance with the regulatory requirements of Criterion XVII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with the internal audits program. No findings of significance were identified.

7. 10 CFR Part 21 Program

a. Inspection Scope

The NRC inspection team reviewed TEC's policies and implementing procedures that govern the implementation of its 10 CFR Part 21 program to verify compliance with the regulatory requirements. The NRC inspection team evaluated the 10 CFR Part 21 postings and a sample of TEC's PO for compliance with the requirements of 10 CFR 21.6, "Posting requirements," and 10 CFR 21.31, "Procurement documents" respectively.

At the time of the inspection, TEC had not performed any evaluations under 10 CFR Part 21.

The NRC inspection team also discussed the 10 CFR Part 21 program with TEC's management and technical staff. The attachment to this inspection report lists the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that TEC is implementing its 10 CFR Part 21 program in accordance with the regulatory requirements of 10 CFR Part 21. Based on the limited sample of documents reviewed, the NRC inspection team also determined that TEC is implementing its policies and procedures associated with the 10 CFR Part 21 program. No findings of significance were identified.

8. Entrance and Exit Meetings

On April 8, 2024, the NRC inspection team discussed the scope of the inspection with Mr. Manuel Bernal, TEC's Plant Manager, and other members of TEC's management and technical staff. On April 12, 2024, the NRC inspection team presented the inspection results and observations during an exit meeting with Mr. Giacomo Sisto, TEC's Director of Operations - Americas, and other members of TEC's management and technical staff. The attachment to this report lists the attendees of the entrance and exit meetings, as well as those individuals whom the NRC inspection team interviewed.

## ATTACHMENT

### 1. ENTRANCE/EXIT MEETING ATTENDEES

Name	Title	Affiliation	Entrance	Exit	Interviewed
Giacomo Sisto	Director of Operations - Americas	TE Connectivity (TEC)		X	
Manuel Bernal	Plant Manager	TEC	X		
Jonathan Cornelius	Product Management Manager	TEC	X		X
Erik Schaefer	Product Manager	TEC	X		X
Dan Clements	Supply Chain Manager	TEC	X		X
Megan Strong	Quality Manager	TEC	X		X
Robert Kyles	Product Development Engineer	TEC	X		X
Angela Jones	Quality Technician	TEC	X		X
Sarah Greenlee	Quality Technician	TEC			X
Lisa Davis	Quality Technician	TEC			X
Lori Harris	Quality Technician	TEC			X
Yamir Diaz-Castillo	Inspection Team Leader	Nuclear Regulatory Commission (NRC)	X	X	
Dong Park	Inspector	NRC	X	X	
Frankie Vega	Inspector	NRC	X	X	
Yiu Law*	Inspector	NRC	X	X	
Kerri Kavanagh	Branch Chief	NRC	X*	X	

\*Participated remotely.

### 2. INSPECTION PROCEDURES USED

- Inspection Procedure (IP) 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 10, 2023
- IP 43002, "Routine Inspections of Nuclear Vendors," dated February 10, 2023

- IP 43004, “Inspection of Commercial-Grade Dedication Programs,” dated February 10, 2023

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description
99902123/2024-201-01	OPENED	Notice of Nonconformance (NON)	Criterion VII, “Control of Purchased Equipment, Materials, and Services”
99902123/2024-201-02	OPENED	NON	Criterion XVI, “Corrective Action”

4. DOCUMENTS REVIEWED

Policies and Procedures

- TEC-402-30, “Corrective and Preventive Action Process,” Revision F, dated November 17, 2010
- TEC-402-116, “TECHS\* - TE Connectivity Complaint Handling System,” Revision D, dated May 15, 2013
- TEC-406-728, “8D Problem Solving Workshop,” Revision B, dated April 9, 2024
- TEC-1000, “Global Quality Management System,” Revision J, dated January 2, 2024
- TEC-1002, “TE Complaint Handling System,” Revision S1, dated October 28, 2022
- TEC-1005, “Total Quality Management Requirements for Suppliers,” Revision K, dated October 9, 2019
- TEC-1006, “Approval of Suppliers,” Revision T, dated October 27, 2023
- TEC-1021, “Global Quality Management System Supplement for Various International Nuclear Quality Assurance Criteria, Regulations, and Requirements,” Revision J, dated October 3, 2023
- TEC-1034, “Failure Mode and Effects Analysis,” Revision A1, dated November 17, 2010
- TEC-1035, “Corrective and Preventive Action Process,” Revision B1, dated February 18, 2013
- ENG-AM-305-00002-01, “Internal Audits Process,” Revision C, dated August 22, 2022
- ENG-AM-305-00004-01, “Creating and Maintaining Quality System Documents,” Revision V, dated December 18, 2023

- ENG-AM-305-00005-01, "Control of Nonconforming Material," Revision E, dated May 3, 2021
- ENG-AM-307-00001-01, "Commercial Grade Dedication Plan for Testing Services & Calibration Services of Measuring & Test Equipment," Revision F, dated March 23, 2023
- ENG-AM 307-00007-01, "Nuclear Auditor Training," Revision C, dated September 1, 2023
- ENG-AM-307-00002-01, "Nuclear Audits," Revision C, dated June 7, 2019
- ENG-AM-307-00003-01, "Nuclear Dedication Process," Revision M, dated April 14, 2022
- ENG-AM-307-00004-01, "Nuclear Corrective Actions for Investigation, Evaluating and Reporting of Potential 10 CFR Part 21 Issues," Revision B, dated February 5, 2019
- ENG-AM-307-00006-01, "Control of Procurement of Products and Services for Nuclear Program," Revision B, dated March 31, 2023
- ENG-AM-307-00007-01, "Nuclear Auditor Training," Revision C, dated September 1, 2023
- ENG-AM-407-00001-01, "How to Send POs to Service and Calibration for Safety Related Suppliers," Revision B, dated November 18, 2015
- ENG-AM-407-00011-01, "Receiving Inspection for Nuclear," Revision A, dated September 11, 2017
- ENG-AM-413-00001-01, "Supplier Quality Management Requirements," Revision C, dated January 30, 2017
- ENG-AM-505-00001-01, "Equipment Calibration Checklist," Revision A, dated September 26, 2016
- ENG-AM-507-00001-01, "Commercial Grade Dedication Data Sheet," Revision B, dated April 30, 2015
- ENG-AM-507-00002-01, "Evaluation for Qualified Inspector and Test Personnel (Nuclear)," Revision B, dated January 23, 2015
- ENG-FV-305-00005-01, "Calibration System Summary Procedure," Revision G, June 14, 2023
- ENG-FV-305-00008-01, "Management Review," Revision A, dated June 6, 2022
- ENG-FV-407-00003-01, "Certificate of Compliance Process for Nuclear," Revision C, dated April 13, 2023
- ENG-FV-407-00007-01, "Commercial Grade Nuclear Safety Related Items Manufactured By Other Sites or Div.," Revision B, dated July 24, 2023



- ENG-FV-407-00009-01, "Technical Evaluation for Nuclear Products," Revision C, dated August 31, 2023
- ENG-FV-407-00013-01, "Nuclear Nonconformance Material Control," Revision F, dated April 23, 2023
- ENG-FV-407-00021-01, "Quality Assurance Program Awareness," Revision A, dated July 3, 2023
- ENG-FV-407-00026-01, "QA Training for Non-QA Personnel," Revision A, dated July 24, 2023
- ENG-FV-407-00029-01, "Nuclear Components and Safety-Related Items," Revision A, dated August 1, 2023
- ENG-FV-407-00035-01, "Nuclear Product Identification and Traceability," Revision A, dated September 6, 2023
- ENG-FV-409-00002-01, "Purchasing Material Process," Revision B, dated June 27, 2023
- ENG-FV-410-00005-01, "Nuclear PO and RFQ Review," Revision H, October 19, 2023
- ENG-FV-505-00004-01, "Purchase Order Nuclear Safety-Related Review Form," Revision F, dated April 28, 2023
- ENG-FV-505-00007-01, "Supplier Annual Evaluation Form," Revision B, dated June 30, 2023
- ENG-FV-507-00001-01, "Nuclear Technical Evaluation Checklist," Revision A, dated February 5, 2014
- ENG-AM-407-00007-01, "Nuclear Kitting/Packaging," Revision E, dated April 18, 2018
- ENG-FV-407-00035-01, "Nuclear Product Identification and Traceability," Revision A, dated September 6, 2023
- ENG-WWW-307-00001-01, "Kit Configuration for Nuclear Products," Revision A, dated February 21, 2019
- ENG-AM-307-00005-01, "Design Changes to Energy's Nuclear Compounds," Revision B, dated February 20, 2020
- ENG-AM-407-00006-01, "Nuclear Molded Products Lot Control," Revision A, dated January, 27 2017
- ENG-FV-407-00015-01, "Label Inspection (Nuclear)," Revision A, dated April 20, 2023
- ENG-FV-407-00014-01, "Packaging Inspection (Nuclear)," Revision A, dated April 13, 2023

- ENG-FV-501-00083-01, "Product Requirement for EPPA-01," Revision C, dated February 7, 2024
- ENG-AM-507-00007-01, "Nuclear Kit Configuration: General Design Principles," Revision A, dated March 2, 2016
- EP/02, "Sampling Guidelines for Inspecting Nuclear Energy Products," Revision M, dated February 15, 2022
- Inspection Instruction No. 294-002 for Product EPPA-100N-4-760, SCD:10001, Revision AF

#### Design Control and Commercial-Grade Dedication

- Energy Development Report (EDR) 5648, "Analysis of Heat Aging Data to Determine Aging Conditions for WCSP, WBTF and WWTF Nuclear Products," dated May 18, 2021
- EDR-5673, "Material Qualification of T188 Nuclear Tubing/Tape Compound to PPS 3010/07," dated May 18, 2021
- EDR-5686, "Material Qualification of T446 Nuclear Adhesive S1119 to PPS 3012/19," dated December 16, 2021
- EDR-5674, "Material Qualification of T531 Nuclear Molding Compound to PPS 3011/08," dated July 15, 2020
- EDR-5807, "BCIC-N-4KVNEWTERM Supplemental Testing for Nuclear Applications," Revision 1, dated April 2, 2024
- Nuclear Kit Configuration Package for EM8230-000, Revision 0, dated April 18, 2019
- Nuclear Kit Configuration Package for NMCK-2L (N) - Nuclear Motor Connection Kit
- Nuclear Kit Configuration Package for NPKV-2-10 (N) - Stub Connection Kit
- Product Performance Specification (PPS) No. 3010/07 for T-188, Revision C, dated February 2019
- PPS No. 3012/19 for T-446, Revision E, dated March 2020
- Product Requirement No. 294-001, "EPPA-007-N," Revision D, dated February 24, 2022
- Product Requirement No. 294-002, "EPPA-100," Revision A, dated July 21, 2004
- Product Requirement No. 294-003, "EPPA-109N," Revision C, dated May 24, 2006
- Product Requirement No. 294-008, "BCIC-N," Revision B, dated October 16, 2015
- Specification Control Document (SCD) - 101A011, "Round End Caps," dated April 3, 2002

- SCD for Adhesive/Sealant S1119 Tape, dated March 21, 2017
- SCD-48019 for Cable breakout, Revision G, dated April 14, 2023
- SCD-37001 for WCSF-Tubing, Revision EF, dated January 7, 2016
- Design change to compound No. T1496, dated January 17, 2023, associated with Request Tracking System (RTS) No. 1706327
- Design change to compound No. T188, dated August 24, 2022, associated with RTS No. 1643807.1
- Design change to compound No. T-446, dated December 7, 2022, associated with RTS No. 1698398
- Commercial-Grade Survey Report of a supplier of testing services, dated February 15, 2024
- Commercial-Grade Survey Report of a supplier of fiber glass sleeves, dated February 26, 2024
- Commercial-Grade Survey Report of a supplier of material, dated August 8, 2022
- Quality Test Report for Lot No. 97630877, dated June 6, 2022
- Quality Test Report for Lot No. 97728909, dated January 30, 2023
- Quality Test Report for Lot No. 98524360, dated May 3, 2023
- Quality Test Report for Lot No. 98858301, dated February 29, 2024
- Quality Test Report for Lot No. 072023, Batch No. 96678797, dated September 29, 2023
- Quality Test Report for Lot No. 99434209, Batch No. 96678797, dated April 4, 2024
- Quality Test Report for Lot No. 072023, Batch No. 96678797, dated September 29, 2023
- Quality Test Report for Lot No. TN10643, Batch No. 1034222-01 and N4460121, dated September 19, 2022
- Technical Evaluation for EPPA-007, "Discharge Control Compound Grease," Revision 1, dated February 10, 2016
- Technical Evaluation for EPPA-109 N, "Fiberglass Sleeve," Revision 1, dated March 16, 2016
- Technical Evaluation for Nuclear Products, "Bus Connection Insulation Covers (Nuclear)," Revision 0, dated October 12, 2015

- Technical Evaluation for GCA including EPPA-N-100 and EPPA-N-101, “Ground Spring and Ground Braid,” Revision 2, dated May 25, 2016
- Test Report for EPPA-100-4-760, Spring Clamps, Purchase Order (PO) No. M103587, Work Order (WO) No. TYC029-06-01-73235-1, dated June 6, 2022
- Test Report for EPPA-100-2-460, Spring Clamps, PO No. M103929, WO No. TYC029-07-29-74618-2, dated August 11, 2022

Calibration Records and Certificates of Compliance/Conformance

- Calibration Supplier List
- TE Connectivity Energy Division Current Gage Listing as of April 10, 2024
- TE Connectivity Energy Division Current Gage Due Listing as of April 10, 2024
- Certificate of Compliance/Conformance for item No. 97325361 (WCSF-115-9/3-12N-B50), dated July 7, 2023
- Certificate of Compliance/Conformance for item No. D93089-000 (NPKV-2-10 (N)), dated, April 20, 2023
- Certificate of Compliance/Conformance for item No. F85803-000 (NHVT-154G), dated January 18, 2024
- Certificate of Calibration for Gage No. 50804B, dated April 11, 2023
- Certificate of Calibration for Gage No. 50804E, dated April 11, 2023
- Certificate of Calibration for Gage No. 50804G, dated April 11, 2023
- Certificate of Calibration for Gage No. 50804K, dated April 11, 2023
- Certificate of Calibration for Gage No. 02073, dated September 26, 2023
- Certificate of Calibration for Gage No. 22020, dated June 10, 2021
- Certificate of Calibration for Gage No. 52302, dated September 15, 2023
- Certificate of Calibration for Gage No. 52176, dated January 5, 2024
- Certificate of Calibration for Gage No. 51602, dated January 4, 2024
- Certificate of Calibration for Gage No. 51610, dated March 1, 2023
- Certificate of Calibration for Gage No. 02073, dated September 26, 2023

- Certificate of Calibration No. 0011503621 for Gage No. 52249, dated December 11, 2023
- Certificate of Calibration No. 0011503622 for Gage No. 52250, dated December 11, 2023
- Gage Detailed Report for Gage No. 51931, dated October 23, 2021
- Gage Detailed Report for Gage No. 51753, dated March 15, 2019
- Gage Detailed Report for Gage No. 51573, dated June 10, 2022
- Gage Detailed Report for Gage No. 50804 C, dated April 11, 2023

Purchase Orders, Work Orders, Audit Reports, and Annual Evaluations

- TE Connectivity's Approved Suppliers List
- Tyco Electronics Energy-Nuclear Controlled Vendor List and Audit Schedule
- PO No. G1591542, Revision 0, dated March 7, 2022
- PO No. G161750, Revision 0, dated February 18, 2022
- PO No. G163759, Revision 0, dated May 27, 2022
- PO No. G167846, Revision 0, dated February 6, 2023
- PO No. G170410, Revision 0, dated June 19, 2023
- PO No. G170470, Revision 0, dated June 21, 2023
- PO No. G171066, Revision 0, dated July 25, 2023
- PO No. G171098, Revision 0, dated July 26, 2023
- PO No. G174387, Revision 0, dated January 12, 2024
- PO No. M103857, Revision 0, dated May 26, 2022
- PO No. M103929, Revision 0, dated July 20, 2022
- PO No. M104676, Revision 0, dated February 14, 2024
- PO No. M104591, Revision 0, dated December 14, 2023
- PO No. M104630, Revision 0, dated February 1, 2024
- PO No. 01387590, Revision 0, dated March 7, 2023

- PO No. 276560, Revision 0, dated May 17, 2023
- PO No. 4500778883, Revision 0, dated April 20, 2023
- PO No. 02461226, Revision 0, dated September 29, 2023
- PO No. 3532-7390264, Revision 5, Dated January 24, 2024
- WO No. 01311969 (for item number A40196-000 / NMCK-2L(N))
- WO No. 11210040, Revision 0, dated January 9, 2024
- WO No. 09300961, Revision K, dated January 17, 2023
- WO No. 09300962, Revision K, dated May 24, 2023
- WO No. 10190125, Revision AC, dated June 26, 2023
- WO No. 12154232, Revision EF, dated January 17, 2023
- Supplier Annual Evaluation Form for a supplier of testing services, dated January 31, 2022
- Supplier Annual Evaluation Form for a supplier of testing services, dated April 11, 2024
- Supplier Annual Evaluation Form for a supplier of fiberglass sleeves, dated June 9, 2023

Nonconformance Reports and Request Tracking Systems

- Nonconformance report Nos. 55223, 55224, 55225, 55228, 55242, 55245, 55250, 55251, 55254, 55256, and 55258
- RTS Nos. 1643807.1, 1698398, 1706327, 1713075.1, 1727086.1, and 1790918.1

Corrective Action Reports

- TE Complaint Handling System (TECHS) report Nos. 1447820, 1557315, 1557316, 1557318, 1557319, 1557322, 1557357, 1557358, 1566281, 1566282, 1566612, 1573160, 1583110, 1589141, 1589142, 1589145, 1592487, 1594422, and 1614854

Corrective Action Reports Opened During the NRC Inspection

- TECHS No. 1615436

Internal Audit Records

- Internal Audit Report No. 2214, March 15-17, 2022
- Internal Audit Report No. 2314, March 14-16, 2023

- Fuquay-Varina Nuclear Internal Audit, March 20-24, 2023
- Fuquay-Varina Nuclear Internal Audit, March 12-14, 2024

Training and Qualification Records

- Erhard Struhl, Celia Gentry, Lori Harris, Lisa Davis, and Megan Strong - Lead auditors and auditors
- Lisa Davis and Lori Harris - In-process Inspectors/Technicians
- Erik Schaefer - Product Manager
- Jonathan Cornelius - Product Management Manager
- Robert Kyles - Nuclear Material Engineer