April 20, 2015

Robert Prigmore, Quality Director
Pentas Controls, LLC
20650 North 29th Place #106
Phoenix, AZ 85050

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT FOR PENTAS CONTROLS, LLC NO. 99901456/2015201 AND NOTICE OF NONCONFORMANCE

Dear Mr. Prigmore:

This inspection was conducted as an unannounced reactive inspection as described in Agencywide Documents Access and Management System (ADAMS) Accession No. ML13120A192, "Response to Mr. Kevin Doyle, President- Pentas Control, LLC Regarding Terms of Probation Requirements," dated April 30, 2013. Information in this inspection report will be provided to the NRC's Office of Enforcement for further review and consideration in response to the global settlement placed on Pentas Controls, LLC.

On March 9-13, 2015, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Pentas Controls, LLC (Pentas) facility in Phoenix, AZ. The purpose of this limited-scope reactive inspection was to assess Pentas' compliance with 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." This technically focused inspection specifically evaluated Pentas' implementation of quality activities associated with the refurbishing and inspection of electronic components. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute an NRC endorsement of Pentas' overall quality assurance (QA) or 10 CFR Part 21 programs.

During this inspection, the NRC inspection team found that the implementation of Pentas' QA program failed to meet certain NRC requirements imposed on you by your customers. Specifically, the NRC inspection team determined that Pentas was not fully implementing its QA program in the areas of nonconformances, corrective action, and commercial grade dedication. 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), Pentas 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 explanation or statement within 30 days of this letter in accordance with the instructions specified in the enclosed NON. The agency will consider extending the response time if you show good cause for us to do so.

In accordance with 10 CFR 2.390, "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure(s), and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access and Management System), accessible at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response, (if applicable), 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, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

/RA/

Edward H. Roach, Chief
Mechanical Vendor Inspection Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket No.: 99901456

Enclosures:
1. Notice of Nonconformance
2. Inspection Report No. 99901456/2015-201
   and Attachment

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

In accordance with 10 CFR 2.390, "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure(s), and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (Agencywide Documents Access and Management System), accessible at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response, (if applicable), 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, "Protection of Safeguards Information: Performance Requirements."

Sincerely,

/RA/

Edward H. Roach, Chief
Mechanical Vendor Inspection Branch
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket No.: 99901456

Enclosures:
1. Notice of Nonconformance
2. Inspection Report No. 99901456/2015-201
   and Attachment

DISTRIBUTION:
KKavanagh
ASakadales
RRasmussen
Kevin.Doyle@pentascontrols.com
KAB.Quality@yahoo.com

ADAMS Accession No.: ML15098A627 *Concurred via e-mail NRO-002

OFFICE	NRO/DCIP/QVIB	NRO/DCIP/MVIB	NRO/DCIP/QVIB
NAME	AArmstrong	BClarke	PPrescott
DATE	04/09/15	04/09/15	04/09/15
OFFICE	NRO/DCIP/MVIB	NRO/DCIP	NRO/DCIP/MVIB
NAME	JOrtega-Luciano	TFrye	ERoach
DATE	04/09/15	04/20/15	04/17/15

OFFICIAL RECORD COPY

NOTICE OF NONCONFORMANCE

Pentas Controls, LLC
20650 North 29th Place #106
Phoenix, AZ 85050

Docket No. 99901456

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the Pentas Controls, LLC (Pentas) facility in Phoenix, AZ on March 9, 2015, through March 13, 2015, certain activities were not conducted in accordance with NRC requirements which were contractually imposed on Pentas by its customers or NRC licensees:

A. Criterion XV, "Nonconforming Materials, Parts, or Components," of Appendix B, "Quality Assurance Program 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 that, "Measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures."

   Section 6.3.7, of Pentas Quality Assurance Procedure (QAP) 15.0, "Nonconformance Reporting and Corrective Action," Revision 1 dated April 15, 2014, states that "Upon completion of verification of corrective action, the QA Director shall sign and date the NCR, note the date of closure and shall file the NCR [nonconformance report] as a Quality Record."

   Section 6.4.1 of QAP 15.0, states that "Items that have been identified as nonconforming, or potentially nonconforming, shall be segregated from conforming items by physical means or by means of identification."

   Section 6.4.3 of QAP 15.0, states that "Where segregation by identification is used, nonconforming items shall be identified with red HOLD tags that are prominently displayed."

   Contrary to the above, as of March 13, 2015, Pentas Controls failed to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation.

Specifically, the NRC inspection team found:

1. Four items that Pentas approved during final inspection were shipped to customers without verification and/or closure of the nonconforming condition by the QA director, including:

   - NCR 1203-01: A safety-related power supply for the main steam line radiation monitoring system for Exelon Energy

   - NCR 1207-01: A safety-related power supply for the main steam line radiation monitoring system for Calvert Cliffs Nuclear Power Plant

   - NCR 1403-01: A safety-related Berkleonics power supply for Calvert Cliffs Nuclear Power Plant

   - NCR 1408-01: A safety-related GEMAC Dual Alarm Module and a safety-related GEMAC Input Summer Module for Nine Mile Point Nuclear Station

2. A Fluke 87 (ID: PCI-022) Multimeter was found with a red 'Hold tags' attached to it and no NCR was generated when the equipment was removed from service and placed in the designated segregation area. As a result of not generating the NCR Pentas failed to verify where this equipment was previously used and perform an evaluation to validate if the readings provided by the affected equipment still within the calibration range.

3. Approximately 30 items physically located in the designated segregation area did not have 'Hold tags' attached to them or open NCR's to document the nonconforming condition. Many of these items were actually conforming but were stored with nonconforming items in a manner that could allow the inadvertent use or installation of nonconforming items.

This issue has been identified as Nonconformance 99901456/2015-201-01.

B. Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50, states 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. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management."

   Section 6.2.1 of Pentas QAP 16.0, "Corrective Action," Revision 1 dated June 9, 2013, states that "Conditions adverse to quality, including significant conditions adverse to quality, shall be identified promptly and corrected as soon as practical."

Contrary to the above, as of March 13, 2015, Pentas failed to establish measures to ensure that conditions adverse to quality were promptly identified and corrected.

Specifically, for the sample of open corrective action requests (CARs) selected, the NRC inspection team noted that CARs had not been promptly corrected, including:

- C1311-01: NUPIC audit finding (VA 13223-01) documenting a recurrence of not having a basis for selecting critical characteristics when conducting commercial grade dedication. This CAR has been open for 16 months.

- C1311-03: NUPIC audit finding (VA 13223-05) documenting a recurrence that recorded test data was not aligned with the established acceptance criteria. This CAR has been open for 16 months.

- C1402-07: An internal audit finding documenting a recurring failure to conduct surveys of suppliers. This CAR has been open for 15 months.

This issue has been identified as Nonconformance 99901456/2015-201-02

C. Criterion III, "Design Control," of Appendix B to 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."

Section 6.3, "Commodity Dedication Plan," of QAP-7.3, "Commercial Grade Dedication," Revision 2 dated September 6, 2013, states, in part, that the Commodity Dedication Specification Plan lists all critical characteristics for the applicable commodity type, and lists the attributes to be verified for the critical characteristics. The verification shall provide reasonable assurance that the correct commodity type with the proper values has been selected for use.

Contrary to the above, as of March 13, 2015, Pentas Controls failed to establish adequate measures for the selection and review for suitability of application of materials that are essential to the safety-related functions of the structures, systems, and components.

Specifically,

1. Pentas' EQ# X17-004, "Equivalency Evaluation for NLI 913189-A Firing Board w/ Terminal strip," identified FR-4 board as an acceptable alternative for the original glass epoxy substrate. Duane Arnold purchase order (PO) 0232796 for seismically qualified safety-related Pentas Controls PCI-913189-A1 firing board and terminal strips identified the board material as FR-4. Pentas' Commodity Dedication Plan Specification Data Sheet (CSN) M02, "Commodity Type Description: Circuit board," for PO 0232796 identified the acceptance method for board material as Hipot testing. The Hipot testing performed by Pentas did not verify the chemical composition of the board material and no laboratory testing was performed to verify the board's chemical composition. CSN M02

acceptance method for board material did no provide reasonable assurance the circuit board material was FR-4 board as required by PO 0232796.

2. Pentas' EQ# X17-004 identified tin/lead plating as an acceptable alternative for the plating material. Duane Arnold PO 0232796 identified tin/lead as the plating material for circuit boards traces and pads. Pentas' CSN M02 for PO 0232796 identified the acceptance method for plating material as conductivity testing. The conductivity testing performed by Pentas did not verify the chemical composition of plating material and no laboratory testing was performed to verify the plating material chemical composition. CSN M02 acceptance method for plating material did not provide reasonable assurance the plating material was tin/lead board as required by PO 0232796.

This issue has been identified as Nonconformance 99901456/2015-201-03

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, Mechanical Vendor Inspection Branch, Division of Construction 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 from the NRC's document system (Agencywide Documents Access Management System), 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, "Protection of Safeguards Information: Performance Requirements."

Dated this 20th day of April 2015.

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

Docket No.:	99901456		
Report No.:	99901456/2015-201		
Vendor:	Pentas Controls, LLC 20650 North 29th Place #106 Phoenix, AZ 85050		
Vendor Contact:	Mr. Robert Prigmore Quality Assurance Director		
Nuclear Industry Activity:	Pentas offers several services for the nuclear power industry including: commercial grade dedication, seismic qualification, sourcing of obsolete and hard to find parts, I&C lab providing repair, refurbishment & reverse engineering, testing & troubleshooting, Upgrades to existing equipment, and design of new products to meet the ever changing needs of the power generation industry.		
Inspection Dates:	March 9-13, 2015		
Inspectors:	Jonathan Ortega Brent Clarke Paul Prescott Aaron Armstrong	NRO/DCIP/MVIB NRO/DCIP/MVIB NRO/DCIP/QVIB NRO/DCIP/QVIB	Team Leader
Management Representation	Kerri Kavanagh	Chief, NRO/DCIP/QVIB	
Approved by:	Edward H. Roach, Chief Mechanical Vendor Inspection Branch Division of Construction Inspection and Operational Programs Office of New Reactors		

Enclosure 2

EXECUTIVE SUMMARY

Pentas Controls, LLC
99901456/2015-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a vendor inspection at the Pentas Controls, LLC (Pentas) facility 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." The NRC inspection team conducted the inspection from March 9-13, 2015. This was the first NRC inspection at Pentas' facility.

This technically focused inspection specifically evaluated Pentas' implementation of quality activities associated with electronic components. These items are repaired or refurbished, and tested in accordance with industry codes and standards for currently operating reactors.

Some of the specific activities observed by the NRC inspection team included:

- Functional test for a Woodward 9903-109 EGM Governor Control
- Set-up and conduct of a 50-hour burn-in test for a KRUG 315101 Annunciator Output Card
- Receipt inspection tests for Vishay/Sprague aluminum electrolytic capacitors (4)
- Receipt inspection tests for Kemet ceramic capacitors (4)
- Functional test for a GE 9T66Y988 Power Supply

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

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

During the course of this inspection, the NRC inspection team implemented Inspection Procedure (IP) 43003, "Reactive Inspections of Nuclear Vendors" supplemented as needed by IP 43002, "Routine Vendor Inspections," IP 43004, "Inspection of Commercial-Grade Dedication Programs," and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance."

The information below summarizes the results of this inspection.

Nonconforming Material, Parts, and Components

The NRC inspection team issued Nonconformance 99901456/2015-201-01 in association with Pentas' failure to implement the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," in Appendix B to 10 CFR Part 50. Nonconformance 99901456/2015-201-01 cites Pentas for failing to ensure measures were established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. Specifically, four items that Pentas approved during final

inspection were shipped to customers without verification and/or closure of the nonconforming condition by the QA Director. Further, a Fluke 87 Multimeter was found in the designated segregation area with 'Hold tags' attached but with no NCR generated to evaluate the nonconforming condition. As a result of not generating the NCR, Pentas failed to verify where this equipment was previously used and failed to perform an evaluation to validate if the readings provided by the affected equipment were within the calibrated range. Finally, approximately 30 items physically located in the designated segregation area did not have 'Hold tags' attached to them or open NCR to document the nonconforming condition. Many of these items were actually conforming but were stored with nonconforming items in a manner that could allow the inadvertent use or installation of nonconforming items.

Corrective Action

The NRC inspection team issued Nonconformance 99901456/2015-201-02 in association with Pentas' failure to implement the regulatory requirements of Criterion XVI, "Corrective Actions," in Appendix B to 10 CFR Part 50. Nonconformance 99901456/2015-201-02 cites Pentas for failing to ensure that conditions adverse to quality were promptly identified and corrected. Specifically, two CARs related to NUPIC audit findings and one CAR related to an internal audit finding have been open in excess of 15 months without documented corrective actions.

Commercial Grade Dedication

The NRC inspection team issued Nonconformance 99901456/2015-202-03 in association with Pentas' failure to implement the regulatory requirements of Criterion III, "Design Control," in Appendix B to 10 CFR Part 50. Nonconformance 99901456/2015-202-03 cites Pentas for failing to identify appropriate acceptance methods for the dedication of a circuit board. Specifically, Pentas' acceptance methods for FR-4 circuit board material and plating material failed to provide reasonable assurance that FR-4 circuit board material and tin/lead plating material was supplied for Duane Arnold's PO 0232796 in order to maintain the seismic qualification of the safety-related Pentas Controls PCI-913189-A1 firing board and terminal strips.

Other Inspection Areas

The NRC inspection team determined that Pentas is implementing its programs for indoctrination/training, oversight of suppliers, control of measuring and test equipment, inspection, traceability, and 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 Pentas is implementing its policies and procedures associated with these programs. No findings of significance were identified.

REPORT DETAILS

1. Part 21

   a. Inspection Scope

   The NRC inspection team reviewed Pentas Controls' (Pentas) policies and implementing procedures that govern its 10 CFR Part 21, "Reporting of Defects and Noncompliance," program to verify that the requirements had been effectively implemented for evaluating deviations and failures to comply. The NRC inspection team reviewed Pentas procedures that govern corrective actions, the control and correction of nonconforming items, as well as interviewed quality assurance staff members and engineers, to verify an adequate and direct connection to the 10 CFR Part 21 program, and compliance with regulatory requirements. Additionally, the inspectors reviewed and evaluated postings for compliance with 10 CFR 21.6, "Posting Requirements."

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

   b. Observations and Findings

   No findings of significance were identified.

   c. Conclusion

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

2. Nonconforming Materials, Parts, or Components

   a. Inspection Scope

   The NRC inspection team reviewed Pentas' policies and implementing procedures that govern the control of nonconformances to verify compliance with the requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," in Appendix B to 10 CFR Part 50.

   For the sample of nonconformance reports (NCRs) reviewed, the NRC inspection team verified that Pentas implemented an adequate program to assess and control nonconforming items, including appropriate identification, documentation, segregation, evaluation, and disposition of these items. This process properly applies the principles of acceptable, repair, rework, hold, scrap, or use-as-is, and it provides for the necessary technical justifications to be adequately supported and properly documented. The NRC inspection team also toured the shop floor to verify that there were designated areas to segregate and control the various classes of nonconforming materials.

The NRC inspection team discussed the nonconformance program with Pentas management and technical staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

During the review of NCRs, the NRC inspection team found four open NCR's for safety-related components that have already been shipped to customers. The NRC inspection team did not find any objective evidence to verify if the nonconforming conditions associated with these NCRs were adequately evaluated and closed as required by Pentas procedure QAP 15.0, "Nonconformance Reporting and Corrective Action." During the evaluation of the NCRs, the NRC inspection team requested the certificate of conformance (CoC) associated with these items that were shipped by Pentas. After discussions with Pentas' staff and verification of the CoCs, the NRC inspection team noted that the CoCs stated that the items comply with the requirements of the purchase order (PO) and the CoCs were approved by Pentas. During the inspection, the NRC inspection team was unable to validate the authenticity of the CoCs because there was no objective evidence of the actions taken by Pentas correcting and verifying the nonconforming condition(s). The NRC inspection team identified this issue as an example of NON 99901456/2015-201-01 for Pentas' failure to file the NCR upon completion of verification of the corrective action, closing the nonconforming condition. During the inspection, Pentas opened CAR No. C1503-01 to address this issue.

During the evaluation of how Pentas segregates nonconforming items, the NRC inspection team observed a Pentas Fluke 87 Multimeter (ID: PCI-022) that had a 'Hold tag' attached. It was determined that there was no open NCR related to this multimeter although it had been assigned a 'Hold tag' on June 12, 2014. Section 6.4.2.1 of Pentas QAP 12.0, states, in part, that "When M&TE is found to be out of calibration…remove the equipment from service, segregate it from acceptable M&TE, and initiate a Nonconformance Report in accordance with QAP 15.0…An evaluation shall be made and documented of the validity of previous inspection or test results and of the acceptability of items previously inspected or tested using out of tolerance M&TE. The Logistics Manager shall note the NCR number on the M&TE Log for subject M&TE." The NRC inspection team determined that as a result of not generating the NCR, Pentas failed to perform an evaluation to verify where this instrument was previously used and if the reading provided by the affected instrument was within the calibrated range. The NRC inspection team identified this issue as an example of Nonconformance 99901456/2015-201-01 for Pentas' failure to generate an NCR for equipment placed in the M&TE hold area as required by section 6.4.2.1 of QAP 15.0.

The NRC inspection team observed approximately 30 items that were stored in the designated NCR segregation area that had no 'Hold tags' and were not entered into the Pentas Nonconformance/Corrective Action Report Control Log. After further conversations with Pentas' staff, the NRC inspection team found that many of those items were actually conforming items. The NRC inspection teams determined that these items were stored in the segregated area with nonconforming items in a manner that

could allow the inadvertent use and installation of nonconforming items. The NRC inspection team identified this issue as an example of Nonconformance 99901456/2015-201-01 for Pentas' failure to adequately segregate nonconforming items to prevent the inadvertent use and installation of nonconforming items.

c. Conclusion

The NRC inspection team issued Nonconformance 99901456/2015-201-01 in association with Pentas' failure to implement the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," in Appendix B to 10 CFR Part 50. Nonconformance 99901456/2015-201-01 cites Pentas for failing to ensure measures were established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. Specifically, four items that Pentas approved during final inspection were shipped to customers without verification and/or closure of the nonconforming condition by the QA Director. Further, a Fluke 87 Multimeter was found in the designated segregation area with 'Hold tag' attached but with no NCR generated to evaluate the nonconforming condition. As a result of not generating the NCR, Pentas failed to verify where this instrument was previously used and failed to perform an evaluation to validate if the readings provided by the affected instrument were within the calibrated range. Finally, approximately 30 items physically located in the designated segregation area did not have 'Hold tags' attached to them or open NCR to document the nonconforming condition. Many of these items were actually conforming but were stored with nonconforming items in a manner that could allow the inadvertent use or installation of nonconforming items.

3. Corrective Action

a. Inspection Scope

The NRC inspection team reviewed Pentas policies and implementing procedures that govern the Corrective Action Program (CAP) to verify compliance with the requirements of Criterion XVI, "Corrective Action," in Appendix B to 10 CFR Part 50. The NRC inspection team reviewed a sample of corrective action reports (CARs) to verify the adequacy of Pentas' implementation and control of CAP. The NRC inspection team discussed the CAP with Pentas management and staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

During the review of CARs, the NRC inspection team noted that CAR No. C1311-01, dated November 8, 2013 documents a Nuclear Procurement Issues Committee (NUPIC) finding that was generated as a result of audit VA 13223-01. CAR No. C1311-01 states that Pentas documentation does not include the basis for selecting critical characteristics when conducting commercial grade dedication. This CAR has been open for 16 months. Also, CAR No. C1311-03, dated November 8, 2013, documents another finding issued by NUPIC that was generated as a result of audit VA 13223-05. CAR No. C1311-03 states that Pentas documentation that recorded test data was not aligned with the

established acceptance criteria. This CAR has also been open for 16 months. Further, CAR No. C1402-07, dated February 15, 2014, was generated as a result of an internal audit. CAR No. C1402-07 states that Pentas has a recurring finding as a result of their failure to conduct surveys of suppliers. This CAR has been open for 15 months.

Section 6.2.1 of Pentas QAP 16.0, "Corrective Action," states that "Conditions adverse to quality, including significant conditions adverse to quality, shall be identified promptly and corrected as soon as practical." The NRC inspection team issued Nonconformance 99901456/2015-201-02 for Pentas' failure to take prompt action to evaluate and correct these conditions adverse to quality as soon as practical. During the inspection, Pentas generated CAR No. C1503-01 to address this issue.

c. Conclusion

The NRC inspection team issued Nonconformance 99901456/2015-201-02 in association with Pentas' failure to implement the regulatory requirements of Criterion XVI, "Corrective Actions," in Appendix B to 10 CFR Part 50. Nonconformance 99901456/2015-201-02 cites Pentas for failing to ensure that conditions adverse to quality were promptly identified and corrected. Specifically, two CARs related to NUPIC audit findings and one CAR related to an internal audit finding have been open in excess of 15 months without documented corrective actions.

4. Commercial Grade dedication

a) Inspection Scope

The NRC inspection team reviewed Pentas' policies and implementing procedures that govern the design control programs to verify their compliance with the regulatory requirements of Criterion III, "Design Control," in Appendix B to 10 CFR Part 50. The inspectors reviewed procedures, work packages, shop drawings, and observed in process testing to determine whether the design control process was performed in a planned, controlled, and orderly manner.

The NRC inspection team also reviewed Pentas' quality procedure QAP 7.3, "Commercial Grade Dedication," which provides the methodology for the dedication of items procured as commercial grade that are dedicated for use in nuclear safety-related applications by evaluation of the commercial grade item's ability to meet the requirements of technical specifications. The NRC inspection team reviewed dedication packages, dedication plans, and the criteria for the selection of critical characteristics, and the selection of acceptance methods to verify that Pentas was effectively implementing its commercial grade dedication process. The NRC inspection team also reviewed the dedication of calibration services to verify how Pentas developed its commercial-grade dedication plan for third-party calibration services.

The NRC inspection team discussed the design control and commercial-grade dedication programs with Pentas' management and technical staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b) Observations and Findings

The NRC inspection team reviewed completed dedication packages to verify that Pentas properly developed and implemented a plan for commercial grade items (CGIs). The NRC inspection team reviewed Pentas' EQ# X17-004, "Equivalency Evaluation for NLI 913189-A Firing Board w/ Terminal strip." The purpose of this equivalency evaluation was to evaluate differences in critical attributes between the original NLI 0000913189-1 firing board and the Pentas Controls PCI-913189-A1 Firing Board. The intent of the evaluation for EQ# X17-004 was to provide objective evidence that the Pentas Controls PCI-913189-A1 Firing Board is equivalent in form, fit, and function to the original NLI 0000913189-1 Firing Board. EQ# X17-004 identified FR-4 board as an acceptable alternative for the original glass epoxy substrate. The evaluation also identified that plating material for traces and pads are the appropriate composition of tin/lead.

Duane Arnold purchase order (PO) 0232796 for seismically qualified safety-related Pentas Controls PCI-913189-A1 firing board and terminal strips identified the board material as FR-4. Pentas' Commodity Dedication Specification Plan (CSN) M02, "Commodity Type Description: Circuit board," identified the acceptance method for circuit board material was Hipot testing. Hipot testing does not verify the chemical composition of board material and no laboratory testing was performed to verify the board's chemical composition. CSN M02 acceptance method failed to provide reasonable assurance the circuit board material was FR-4 board as specified in PO 0232796. CSN M02 also identified the required plating material as a tin/lead composition. The acceptance method selected for the tin/lead plating material was conductivity testing. Conductivity testing does not verify the chemical composition of plating material and no laboratory testing was performed to verify the plating material's chemical composition. CSN M02 acceptance method failed to provide reasonable assurance the plating material chemical composition was tin/lead as specified in PO 0232796.

Section 6.3 of QAP-7.3, states that the critical characteristics for each material, part, or component shall be selected in a manner that assures that the serviced component is equal to or better than the original component it replaces. The Commodity Dedication Plan Specification lists all critical characteristics for the applicable commodity type, and lists the attributes to be verified for the critical characteristics. The verification shall provide reasonable assurance that the correct commodity type with the proper values has been selected for use. The acceptance criteria specified by the Commodity Dedication Plan Specification should have qualitative and quantitative limits. The NRC inspection team determined that the acceptance methods used did not provide reasonable assurance to verify that the circuit board material was FR-4 and plating material was a tin/lead composition. The current acceptance methods used for circuit board material and plating materials failed to provide reasonable assurance FR-4 board and tin/lead plating material was procured in accordance with PO 0232796. The NRC inspection team determined that Pentas failed to identify appropriate acceptance methods for the dedication of print circuit boards. The NRC inspection team identified this issue as Nonconformance 99901456/2014-201-03. During the inspection, Pentas opened CAR No. C1503-07 to address this issue.

c) Conclusion

The NRC inspection team issued Nonconformance 99901456/2015-201-03 for Pentas' failure to implement the regulatory requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. Nonconformance 99901456/2015-201-03 cites Pentas for failure to select appropriate acceptance methods for the dedication of print circuit boards. Specifically, Pentas Controls' EQ# X17-004 identified the required circuit board material as FR-4 and plating material as a tin/lead composition for PO 0232796. The acceptance method for verifying board material was Hipot testing. Hipot testing verifies the dielectric strength of the board, but does not verify the board material chemical composition. The acceptance method for verifying tin/lead plating material was conductivity testing. The conductivity testing for plating material verifies conductivity, but does not verify the required tin/lead plating material's chemical composition.

5. Organization

a. Inspection Scope

The NRC inspection team reviewed Pentas' policies and procedures to verify that Pentas QAM-100 described and implemented its organization consistent with the regulatory requirements in Criterion I, "Organization," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."

The NRC inspection team evaluated Pentas' organizational structure and functional relationships. In addition, the NRC inspection team verified that the organizational description addresses the organizational structure, functional responsibilities, levels of authority, and interfaces. Also, the NRC inspection team reviewed the qualifications, responsibilities, and duties of personnel performing activities affecting quality. Further, the NRC inspection team verified that personnel performing QA program implementation and verification activities have the authority, independence, and organizational freedom (independent from cost or schedule considerations) to identify quality problems, recommend solutions, and verify implementation of solutions.

In addition, the NRC inspection team discussed the organization with Pentas' management and staff. The attachment to this inspection report lists the documents reviewed by the inspectors.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team determined that Pentas is implementing its quality assurance program in accordance with the regulatory requirements of Criterion I in Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC

inspection team also determined that Pentas is implementing its policies and procedures associated with Organization. No findings of significance were identified.

6. Personnel Training and Qualification

a. Inspection Scope

The NRC inspection team reviewed Pentas' policies and implementing procedures that govern the training and qualification program to verify compliance with the requirements of Criterion II, "Quality Assurance Program," of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed Pentas' training plans and the system used to track training. The NRC inspection team reviewed the indoctrination, training, and qualification of lead auditors, Quality Control (QC) personnel, and inspection and testing personnel to ensure that proficiency is achieved and maintained. The NRC inspection team verified that all personnel performing activities affecting quality had completed the required training and met all the specified requirements in accordance with Pentas policies and implementing procedures.

The NRC inspection team discussed the training and qualification program with Pentas management and staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

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

7. Oversight of Suppliers

a. Inspection Scope

The NRC inspection team reviewed Pentas' policies and implementing procedures that govern the implementation of its oversight of contracted activities and audit program to verify compliance 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.

The NRC inspection team reviewed a sample of POs issued by Pentas in support of several safety-related activities to verify that the requirements identified in the procedures were imposed in the applicable PO documents. The NRC inspection team

verified that the Pentas' POs adequately defined contract deliverables, instructions for the disposition of a nonconformance, access rights, and provisions for the extension of contractual requirements to subcontractors. In addition, the NRC inspection team verified that all of the safety-related POs reviewed included clauses invoking the provisions of 10 CFR Part 21 and required the vendor or supplier to conduct safety-related work under its approved QA program.

The NRC inspection team reviewed Pentas' Approved Suppliers List database (ASL) to ensure that qualified and approved suppliers were listed; that authorized personnel maintained, distributed, and periodically updated the list; and that any revisions to the list were implemented following the applicable procedures. The NRC inspection team verified that the ASL documented (1) the vendor name, (2) the scope of work, (3) the approval date, and (4) the due date. The NRC inspection team also confirmed that the suppliers performing work for Pentas were appropriately listed on the ASL and that the scope of supply was documented and consistent for the activities contracted. In addition, the NRC inspection team verified that, for the sample of vendors selected, Pentas performed supplier audits as required and that the corrective actions related to these audits were implemented in a timely manner.

The NRC inspection team reviewed a sample of receipt inspection records, and external audit reports (including those conducted by third parties) to evaluate compliance and adequate implementation of Pentas' technical and oversight program requirements. In addition, the NRC inspection team reviewed a sample of audits, and auditor qualification records. Also, the NRC inspection team reviewed the disposition of corrective actions to resolve deficiencies identified by audit findings for adequacy and timeliness. The NRC inspection team confirmed that the audits are performed in accordance with the Pentas' program and regulatory requirements.

The NRC inspection team discussed the oversight of contracted activities and external audit programs with Pentas' management and technical staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified

c. Conclusion

The NRC inspection team determined that Pentas is implementing its oversight of contracted activities in accordance with the regulatory requirements of Criterion IV, "Procurement Document Control," Criterion VII, "Control of Purchased Material, Equipment, and Services." of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed, the NRC inspection team also determined that Pentas is implementing its policies and procedures associated with the oversight of contracted activities. No findings of significance were identified.

8. Inspection

a. Inspection Scope

The NRC inspection team reviewed Pentas' policies and implementing procedures that govern the inspection program to verify compliance with the regulatory requirements of Criterion X, "Inspection," of Appendix B to 10 CFR Part 50.

The NRC inspection team verified that Pentas' procedures for inspection activities provided measures for the generation of inspection documents such as travelers, instructions, checklists, or other appropriate means. For a sample of inspection documents, the NRC inspection team verified that these documents included the appropriate information as required by Pentas' procedures such as the inspection date, type of observation, results of examinations and tests, the initials of the quality control (QC) inspector, and mandatory hold points were indicated and work did not proceed without appropriate approval.

The NRC inspection team discussed the inspection programs with Pentas' management and technical staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified

c. Conclusion

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

9. Traceability

a. Inspection Scope

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

The NRC inspection team observed that all materials were marked with unique identifiers traceable to procurement records. This number is unique and assigned once the receipt inspection is completed. For a sample of the dedicated electrical components, the NRC inspection team observed that identification markings were: (1) traceable to the correct shop drawings, (2) markings remained legible through the

manufacturing process and (3) identification were clear and legible that did not adversely affect the function or service life of components.

The NRC inspection team verified the traceability and storage of material. The NRC inspection team discussed the material traceability program with Pentas' management and technical staff. The attachment to this inspection report lists the documents reviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team determined that Pentas 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 Pentas is implementing its policies and procedures associated with the material traceability program. No findings of significance were identified.

10. Control of Measurement and Test Equipment

a. Inspection Scope

The NRC inspection team reviewed Pentas' policies and implementing procedures that govern the measurement and test equipment (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 (e.g., oscilloscope, multimeter, scope meter, etc.), the NRC inspection team determined that they had the appropriate calibration stickers with the respective calibration service and current calibration dates including the calibration due date. The NRC inspection team also verified that the M&TE had been calibrated, adjusted, and maintained at prescribed intervals. In addition, the NRC inspection team verified that the calibration records indicated the "as-found" or "as-left" conditions, accuracy required, calibration results, calibration dates, owner of the calibration services, and the due date for recalibration. The NRC inspection team also verified that the selected M&TE was calibrated using procedures traceable to known industry standards including those outsourced for calibration. All M&TE equipment was traceable with a unique Pentas Operations ID number. The ID number is traced and can be retrieved using an Excel M&TE log which contains all of the information regarding the calibration of the item.

The NRC inspection team performed a walk down to ensure that equipment located in the M&TE storage area, the M&TE hold area, and the fabrication shop were labeled, handled, and stored in a manner that indicated the calibration status of the instrument and ensured its traceability to calibration test data.

The NRC inspection team discussed the M&TE program with Pentas' management and staff. The attachment to this inspection report lists the documents reviewed by the inspection team.

b. Observations and Findings

No findings associated with the implementation of M&TE program were found. During the inspection of how nonconforming items are been segregated by Pentas the NRC inspection team found an M&TE instrument (Fluke 87 multimeter) that was out of calibration but no evaluation was performed to verify were this instrument was used. Nonconformance 99901456/2015-201-01 cites Pentas for failing to generate an NCR for equipment placed in the M&TE hold area as required by section 6.4.2.1 of QAP 12.0, "Control of Measuring and Test Equipment." This issue is been discussed in Section 1, "Nonconforming Material, Parts, and Components," of this report.

c. Conclusion

The NRC inspection team determined that with the exception of Nonconformance 99901456/2015-201-01 Pentas is implementing its M&TE program in accordance with the regulatory requirements of Criterion XII of Appendix B to 10 CFR Part 50. Nonconformance 99901456/2015-201-01 cites Pentas for failing to generate an NCR for equipment placed in the M&TE hold area as required by section 6.4.2.1 of QAP 12.0.

11. Internal Audits

a. Inspection Scope

The NRC inspection team reviewed Pentas' policies and implementing procedures that govern the internal audit program to verify compliance with the requirements of Criterion XVIII, "Audits," in Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed a sample of internal audits and the qualifications of the contracted auditors to verify the implementation of the Pentas' audit program. The NRC inspection team also reviewed the disposition of audit findings for adequacy and timeliness.

The NRC inspection team discussed the internal audit program with Pentas' management and staff. The attachment to this inspection report lists the documents reviewed by the inspection team.

b. Observations and Findings

The NRC inspection team identified that Pentas hired contractors to conduct its internal audits in 2014 and 2015. Because the 2015 internal audit was completed the week before the NRC inspection, that audit report was not available for NRC inspection. No findings of significance were identified.

c. Conclusion

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

12. Entrance and Exit Meetings

On March 9, 2015, the NRC inspection team discussed the scope of the inspection with Mr. Kevin Doyle, President, and other members of Pentas’ management. On March 13, 2015, the NRC inspection team presented the inspection results and observations during an exit meeting with Mr. Doyle and other members of Pentas’ management. 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 AND EXIT MEETING ATTENDEES

Name	Title	Affiliation	Entrance	Exit	Interviewed
Jonathan Ortega-Luciano	Inspection Team Leader	NRC	X	X	
Brent Clarke	Inspector	NRC	X	X	
Aaron Armstrong	Inspector	NRC	X	X	
Paul Prescott	Inspector	NRC	X	X	
Kerri Kavanagh	Chief	NRC		X	
Kevin Doyle	President	Pentas	X	X	X
Robert Prigmore	Director of Quality Assurance	Pentas		X	X
Richard Henne	Engineering Manager	Pentas	X	X	X
Victor Perez	Logistic Manager	Pentas	X	X	X
Hung Le	Technician	Pentas			X
Emil Dragomir, ,	Technician	Pentas			X
Anthony Witulski	Technician	Pentas			X
Paul Witulski	Technician	Pentas			X

2. INSPECTION PROCEDURES USED

- Inspection Procedure (IP) 43002, “Routine Inspections of Nuclear Vendors,” dated July 15, 2013.
- IP 43003, “Reactive Inspections of Nuclear Vendors,” dated October 3, 2013
- IP 36100, “Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance,” dated February 13, 2012

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description	Applicable ITAAC
99901456/2015-201-01	OPEN	NON	Criterion XV	N/A
99901456/2015-201-02	OPEN	NON	Criterion XVI	N/A
99901456/2015-201-03	OPEN	NON	Criterion III	N/A

4. DOCUMENTS REVIEWED

Policies and Procedures

- Quality Assurance Manual (QAM-100), Revision 5 dated April 15, 2014
- Quality Assurance Procedure (QAP) 0.1, "Table of Contents – QAP's," Revision 14 dated March 5, 2015
- QAP 0.2, "Terms and Definitions," Revision 0 dated June 8, 2011
- QAP 2.0, "Quality Assurance Program," Revision 2 dated July 22, 2014
- QAP 2.1, "Indoctrination and Training of Personnel," Revision 0 dated June, 8, 2011
- QAP 2.2, "Qualification of Inspection and Test Personnel," Revision 0 dated June 8, 2011
- QAP 2.3, "Qualification of Solder Personnel," Revision 0 dated June 8, 2011
- QAP 2.4, "Safety Conscious Work Environment," Revision 2 dated August 7, 2013
- QAP 5.3, "Equipment Assembly and Soldering Standard," Revision 1 dated October 16, 2013
- QAP 5.4, "Instructions For Solder Inspection," Revision 0 dated March 5, 2015
- QAP 7.0, "Control Of Purchased Material, Equipment, and Services," Revision 0 dated June 8, 2011
- QAP 7.3, "Commercial Grade Dedication," Revision , dated September 6, 2013
- QAP 7.4, "Source Verification," Revision 2 dated April 15, 2014
- QAP 7.5, "Commercial Grade Survey," Revision 2 dated April 15, 2014
- QAP 8.0, "Identification and Control of Materials, Parts, and Components," Revision 1 dated November 4, 2013
- QAP 9.0, "Control of Special Processes," Revision 0 dated June 8, 2011
- QAP 10.0, "Inspection," Revision 0 dated June 8, 2011
- QAP 12.0, "Control of Measuring and Test Equipment," Revision 3 dated December 16, 2013
- QAP 15.0, "Nonconformance Reporting and Corrective Action," Revision 1 dated April 9, 2013
- QAP 15.1, "Supplier Disposition Deviation Requests," Revision 0 dated June 8, 2011
- QAP 16.0, "Corrective Action," Revision 1 dated June 9, 2013

- QAP 16.1, “Part 21 Notifications,” Revision 2 July 22, 2014
- QAP 17.0, “Quality Assurance Records,” Revision 1 dated October 13, 3013
- QAP 18.0, “Audits,” Revision 0, dated June 8 2011
- QAP 18.1, “Qualification of Lead Auditors,” Revision 0 dated June 8, 2011

Purchase Orders (PO)

- Purchase Order No 005045 to Project Assistance Corporation for Internal Audit, dated October 5, 2012
- Purchase Order No 005488 to Eugene Wasson for Internal Audit, dated February 5, 2015
- Purchase Order No. 443309, from Calvert Cliffs Nuclear Power Plant for, “Evaluation of Fail in service PCI-230IT-A isolated Signal Transmitter S/N: PC91207,” Dated April 22, 2014
- Purchase Order No. 443429, from Calvert Cliffs Nuclear Power Plant for, “ End of live refurbishment of CCNPP Item No. 96295, Pentas Controls Part Number PCI-230IT-A S/Ns 56228, 56241, 56247, 58486, & 75710,” dated May 14, 2014
- Purchase Order No. 02327296 from NextEra Energy Duane Arnold for, “Firing Board With Terminal Strip, PCP P/N 0000913189-1 S/N: PC20176, PC20177, PC20178, and PC20179,” dated May 12, 2014
- Purchase Order No. 7732615, from Nine Mile Point Nuclear Station for, “Repair/Refurbishment of (1) Regulator Printed Circuit Board and (11) Flow Control Printed Circuit Boards,” dated April 4, 2013
- Purchase Order No. 7732934, from Nine Mile Point Nuclear Station for “Repaired/Refurbished GE 188C8099G001 [9336725] Power Supply, Serial Number 89J954-3,” dated April 26, 2013
- Purchase Order No. 7738351, from Nine Mile Point Nuclear Station for “Repaired/Refurbished GE, 1589K79G700 [9 510307] Power Supply Board,” Revision 1, dated June 29, 2014,
- Purchase Order No. 00599930, from PPL Susquehanna, LLC for, “Repaired/Refurbished Switch, Temperature GE 164C5687P103 [0091039422] Power Supply, Serial Number 6454,” dated March 19, 2014
- Purchase Order No. 10435709, Entergy-Grand Gulf for “Repaired/Refurbished GE Power supply GE9T66Y988, [00902410323] Power Supply,” dated January 27, 2015,
- Purchase Order No. 10434768, Entergy-Grand Gulf for, “Replace and Refurbish Grand Gulf EGM Woodward Governor to Original Specification,” dated January 27, 2015
- Purchase Order No. 7732533, from Nine Mile Point Nuclear Station for, “Repaired/Refurbished High Power Output Insulators Board,” dated December 10, 2013
- Purchase Order No. 02319285, from FP&L St. Lucie for, “Supply device UV Trip for Left Hand Mount 125 VDC coil with resistors 160W 1500 ohm PCI 458D020G17,” dated February 28, 2014

Design Documents

- DWG PCI-913189-AI, “Firing Board,” Sheet 1 - 6, Revision 3
- PES- 51360, “CCNP Procurement Engineering Specification Electronic Equipment Repair/Refurbishment,” Revision 7 dated June 13, 2013

- E-AA-001, “Exelon Nuclear engineering Specification for Circuit Card Refurbishment / Repair Specification,” Revision 1
- NES-EIC-10.10, “Exelon Nuclear engineering Specification for Circuit Card Refurbishment I Repair Standard,” Revision 0

Training and Qualification Records

- Training records for the following personnel: Robert Prigmore, Emil Dragomir, Hung Le, Richard Henne, Victor Perez, Tony Witulski, and Paul Witulski.
- Lead Auditor Qualification, Eugene F. Wasson, dated March 2, 2015
- Lead Auditor Qualification, James D. Larkin, dated February 3, 2014

Nonconformance Reports

N1203-01, N1207-01, N1307-04, N1307-05, N1307-08, N1308-02, N1403-01, N1404-04, N1403-05, N1404-01, N1405-01, N1407-01, N1408-01, N1408-02

Corrective Action Reports

C1310-01, C1311-01, C1311-03, C1311-04, C1311-05, C1402-03, C1402-04, C1402-05, C1402-06, C1402-07, C1503-01

Corrective Action Reports Generated during the NRC Inspection

- C1503-01, C1503-02, C1503-03, C1503-04,C1503-06, and 1503-07

Audits

- Internal Audit 2014-01, dated February 7, 2014
- Audit Plan for the Annual Internal Audit of Pentas Controls, LLC, (Audit #2015-01), dated February 10, 2015
- Audit Plan for the Annual Internal Audit of Pentas Controls, LLC (Audit #2014-01) dated February 3, 2014
- Annual Management Assessment, dated December 17, 2014
- Approved Supplies List (ASL), National Calibration Inc., 3737 East Broadway Road, Phoenix, AZ 85040, Cert. No. 1892.01, date approved December 17, 2014
- Approved Supplies List (ASL), Keithley Primary Standards Laboratory, 28775 Aurora Road, Cleveland, OH 44139, Cert. No. 2462.01, date approved August 31, 2016

Miscellaneous

- M&TE Calibration Log
- Pentas Controls NCR/CAR Control Log
- QQ-S-571F, “Federal Specifications Solder, Electronic (96C to 485C)
- dated May 18, 1994
- Root Cause Failure Analysis for Pentas Controls PCI-230IT-A Isolated Signal Transmitter, Revision 0, dated May 5, 2014

- Equivalency No.: XI 7-004 , “Pentas Controls Equivalency Evaluation For NLI 0000913189-1 Firing Board W/ Terminal Strip Serial Number PC91207OIW-OR-NOUC-009,” Revision 6, dated June 11, 2014
- Quality Assurance plan for Pentas Controls PCI 458D020G17, 125VDC UV trip device with 1500 ohm series Resistors, Revision 0, dated January 23, 2014
- Procedure No.: TS 095, “Troubleshooting Log Transmation 230It Isolator Transmitter Module,” Revision 0, dated August 2, 1999
- Functional Test No.: 186, “Transmation And Pentas Controls 230IT Isolated Transmitter,” Revision , dated December 20, 2012
- Functional Test No. 1274, “Pentas Controls PCI-913189-AI Firing Board,” Revision 1, dated June 18, 2014
- Functional Test No. 255, “Pentas Controls PCI-913189-AI Firing Board,” Revision 0 , dated January 15, 2003
- Functional Test No. 302, “Functional Test GE 188C8099G001,” Revision 1, dated December 26, 2008
- Functional Test No. 697, “Pentas Controls/Teledyne Flow Control Board,” Revision 2, dated September 20, 2001
- Procedure No.: TSI 697, “Troubleshooting Log GE 188C8099G001,” Revision 0, dated February 11, 2008
- Procedure No.: TSI 1216, “GE 1589K79G700 Power Supply Board Troubleshooting Instruction,” Revision 0, dated August 20, 2013
- Functional Test No. 1216, “Functional Test GE 188C8099G001,” Revision 0, dated August 20, 2013
- Procedure No.: TSI 1282, “Riley / Panalarm GE 164C5687P103, 203, 403 Temperature Switch Trouble Shooting Test,” Revision 0, dated June 14, 2014
- Functional Test No. 1282, “Riley / Panalarm GE 164C5687P103, 203, 403 Temperature Switch Functional Test,” Revision 0, dated June 14, 2014
- Functional Test No. 1312, “GE Power supply GE9T66Y988 [00902410323] Power Supply,” Revision 0, dated January 30, 2015
- Procedure No.: TSI. 1312, “GE Power supply GE9T66Y988 [00902410323] Power Supply, Troubleshooting Instruction” Revision 0, dated March 5, 2015
- Functional Test No. 332, “Functional Test Woodward Governor 9903-109/085,” Revision 1, dated March 5, 2015
- Procedure No.: TSI 212, “Woodward Governor 9903-109/085 Troubleshooting Instruction,” Revision 0, dated March 6, 2002
- CSN M02, Commodity Dedication Plan Specification Data Sheet, “Commodity Type Description: Circuit board,” Revision 3, February 24, 2014
- Functional Test No. 1311, “Function Test Instructions for KRUG315101 Annunciator Card,” Revision 0 , dated February 16, 2015
- Procedure No.: TSI 1311, “KRUG315101 Annunciator Card Trouble Shooting Test,” Revision 0, dated February 10, 2015

Production Shop Traveler

- Project No: CC1405-012, “Pentas Controls PCI-2301T-A, S/N: PC91207, Isolated Signal Transmitter , [CAT ID: 96295],” dated May 2, 2014
- Project No: CC1405-028, “Transmation 2301T, S/N: 56247, Isolated Transmitter Module, [CAT ID: 96295],” dated May 21, 2014
- Project No: DA1406-008, “Pentas Controls PCI-913189-A1, S/N: 001 - 003, Firing Board w/ Terminal Strip , [CAT ID: 0002021641], dated June 12, 2014
- Project No: NM1304-009, “Teledyne PC-194C, S/N: 100, Flow Control Board, [CAT ID: 9113775],” dated April 8, 2013
- Project No: NM1305-002, “GE 188C8099G001, S/N: 89J954-3, Power Supply, [CAT ID: 9336725],” dated May 2, 2013
- Project No: NM1407-006, “GE 1589K79G700, S/N: NONE, Power Supply Board, [CAT ID: 9510307],” dated July 3, 2014
- Project No: 551403-004, “Riley/Panalarm GE 164C5687P403, S/N:CG1006, Temperature Switch , [CAT ID: 0091039422 0],” dated March 11, 2014
- Project No: GG1501-005, “GE Power supply GE9T66Y988, [CAT ID: 00902410323],” dated January 30, 2015
- Project No: GG1501-00, “Replace and Refurbish Grand Gulf EGM Woodward Governor to Original Specification,”
- Project No: NM1312-003, “Repaired/Refurbished High Power Output Insulators Board Supply”
- Project No: SL1403-001, “Manufacture PCI 458D020G17 UV Trip for Left Hand Mount 125 VDC coil with resistors 160W 1500 ohm”