April 5, 2013

Mr. Vince Chermak, Quality Assurance Manager
Scientech
A Business Unit of Curtiss-Wright Flow Control Company
200 S. Woodruff Avenue
Idaho Falls, ID 83401

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION REPORT
NO. 99901320/2013-201 AND NOTICE OF NONCONFORMANCE

Dear Mr. Chermak:

From March 4-7, 2013, the U.S. Nuclear Regulatory Commission (NRC) staff conducted a limited scope inspection at the Curtiss-Wright Flow Control Company, Scientech facility (hereafter referred to as Scientech), in Idaho Falls, ID. The inspection assessed Scientech's compliance with 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." The technically focused inspection specifically evaluated quality assurance (QA) activities associated with the design, qualification, testing, and procurement of safety-related replacement process control modules supplied to U.S. nuclear power plants. The enclosed report presents the results of this inspection. This inspection report does not constitute the NRC's endorsement of your overall QA or 10 CFR Part 21 programs.

Based on the results of this inspection, the NRC inspection team found that the implementation of your QA program did not meet an NRC requirement imposed on you by your customers or NRC licensees. Specifically, Scientech failed to address if there had been any design changes made on shipped relays that could invalidate their seismic qualification. The enclosed notice of nonconformance (NON) to this letter identifies the specific finding and references to the pertinent requirements, and the enclosed inspection report describes, in detail, the circumstances surrounding it.

Please provide a written statement or explanation within 30 days from the date of this letter in accordance with the instructions specified in the enclosed NON. The NRC will consider extending the response time if you show good cause for the agency 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, and its enclosures will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System document system, accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

To the extent possible, your response should not include any personal privacy, proprietary, or Safeguards Information (SGI) 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, as well as 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 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 SGI 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/

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

Docket No.: 99901320

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, as well as 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 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 SGI 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/

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

Docket No.: 99901320

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OFFICE	NRO/DCIP/CEVB	NRO/DCIP/CEVB	NRO/DCIP/CMVB	NRO/DCIP/CEVB
NAME	SSmith	EHuang	YDiazCastillo	JJacobson
DATE	03/27/2013	03/27/2013	03/27/2013	03/27/2013
OFFICE	NRO/DCIP/CAEB	NRO/DCIP/CEVB		
NAME	TFrye	RRasmussen		
DATE	04/05/2013	04/05/2013		

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NOTICE OF NONCONFORMANCE

Scientech
Idaho Falls, ID 83401

Docket No. 99901320
Report No. 99901320/2013-201

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted at the Scientech facility in Idaho Falls, ID, from March 4-7, 2013, it appears that certain activities were not conducted in accordance with NRC requirements contractually imposed upon Scientech by its customers or NRC licensees

A. Criterion XVI, "Corrective Action," 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 "[m]easures 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."

   Contrary to the above, as of March 3, 2013, the NRC inspection team identified one example where Scientech failed to adequately identify and correct a condition adverse to quality. Specifically, Scientech identified a lack of dedication requirements for mechanical testing of seismically sensitive components such as relays, but failed to address if design changes for relays that have already been supplied to the industry invalidate their seismic qualification.

Please submit 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, Electrical Vendor Branch, Division of Construction Inspection, and Operational Programs, Office of New Reactors, within 30 days of the date of the letter transmitting this notice of nonconformance. This reply should be clearly marked as a "Reply to a Notice of Nonconformance" and should include for each noncompliance: (1) the reason for the noncompliance or, if contested, the basis for disputing the noncompliance, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid noncompliance, and (4) the date the corrective action will be completed. If you should require more time and can show good cause, the NRC will consider an extended response time.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html), do not include—to the extent possible—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 at Rockville, MD, this 5th day of April 2013.

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

Docket No.:	99901320
Report No.:	99901320/2013-201
Vendor:	Scientech A Business Unit of Curtiss-Wright Flow Control Company 200 S. Woodruff Avenue Idaho Falls, ID 83401
Vendor Contact:	Mr. Vince Chermak, Quality Assurance Manager vchermak@curtisswright.com
Background:	The Scientech facility is located in Idaho Falls, ID. This facility provides instrumentation, electrical components, specialty hardware, process control systems, reverse engineering, repair, refurbishment, environmental qualification, and commercial-grade dedication services to U.S. operating nuclear power plants. Currently, this facility does not supply any parts or services for the Westinghouse Electric Company AP1000 reactor design. This was the first NRC inspection of this Scientech facility.
Inspection Dates:	March 4–7, 2013
Inspection Team:	Stacy Smith — NRO/DCIP/CEVB, Team Leader Eugene Huang — NRO/DCIP/CEVB Yamir Diaz-Castillo — NRO/DCIP/CMVB Jeffrey Jacobson — NRO/DCIP/CEVB
Approved by:	Richard A. Rasmussen, Chief Electrical Vendor Branch Division of Construction Inspection and Operational Programs Office of New Reactors

EXECUTIVE SUMMARY

Scientech
99901320/2013-201

The U.S. Nuclear Regulatory Commission (NRC) conducted this inspection to verify that the Curtiss-Wright Flow Control Company's Scientech facility (hereafter referred to as Scientech) implemented an adequate quality assurance (QA) program for the design, qualification, testing, and procurement of safety-related replacement process control modules supplied to U.S. nuclear power plants that complied 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." In addition, the NRC performed this inspection to verify that Scientech implemented a program under 10 CFR Part 21, "Reporting of Defects and Noncompliance," which met the NRC's regulatory requirements.

The NRC conducted the inspection at the Scientech facility, in Idaho Falls, ID, March 4-7, 2013.

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

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

During the conduct of this inspection, the NRC inspection team implemented Inspection Procedure (IP) 43002, "Routine Inspections of Nuclear Vendors," dated April 25, 2011; IP 43004, "Inspection of Commercial-Grade Dedication Programs," dated April 25, 2011; and IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance," dated February 13, 2012.

The NRC inspection team observed various activities associated with design, qualification, testing, and procurement of electrical components and process control systems, conducted interviews with responsible Scientech personnel, and reviewed documents to determine if Scientech performed these activities in accordance with the applicable design, quality, and technical requirements imposed in the purchase orders (PO). Some of the activities the NRC inspection team observed included:

- receipt inspection
    - wire harness
    - ensign power supply
- disposition of a supplier nonconformance for a power supply board
- assembly of time domain modules
    - soldering for the auxiliary harness assembly
    - hole punching and quality control inspection for the master board printed circuit assembly
- developing a certificate of conformance

- implementation of electrostatic discharge controls
- wave soldering of components on a printed circuit board

In addition to observing these activities, the NRC inspection team walked down Scientech's assembly floor and verified that it had properly identified nonconforming materials, and marked and segregated them, when practical, to ensure they were not reintroduced into the production processes.

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

10 CFR Part 21 Program

The NRC inspection team concluded that Scientech is implementing its procedures that govern its 10 CFR Part 21 evaluation and reporting programs consistent with the regulatory requirements of 10 CFR Part 21.

Nonconforming Materials, Parts, or Components and Corrective Action

The NRC inspection team concluded that Scientech is implementing its policies and implementing procedures that govern its nonconforming materials, parts, or components consistent with the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components."

However, the NRC inspection team issued Nonconformance 99901320/2013-201-01 in association with Scientech's failure to implement the regulatory requirements and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. Specifically, Scientech identified a lack of dedication requirements for mechanical testing of seismically sensitive components such as relays, but failed to address if design changes for relays that have already been supplied to the industry invalidate their seismic qualification.

Inspection and Testing

The NRC inspection team concluded that Scientech is implementing its policies and procedures that govern the assembly, qualification, inspection, and testing activities consistent with the regulatory requirements of Criterion X, "Inspection," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50.

However, the NRC inspection team identified an example of inadequate corrective action noted in Nonconformance 99901320/2013-201-01.

Design Control and Commercial-Grade Dedication

The NRC inspection team concluded that Scientech is implementing its policy procedures that govern the design control and commercial-grade dedication programs consistent with the

regulatory requirements of Criterion III, “Design Control,” and Criterion VII, “Control of Purchased Material, Equipment, and Services,” of Appendix B to 10 CFR Part 50.

Oversight of Contracted Activities and Audits

The NRC inspection team concluded that Scientech is implementing its policies and implementing procedures that govern the oversight of contracted activities consistent with the regulatory 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.

Control of Measuring and Test Equipment

The NRC inspection team concluded that Scientech is implementing its policies and procedures that govern test control and Measuring and Test Equipment programs consistent with the regulatory requirements of Criterion XII, “Control of Measuring and Test Equipment,” of Appendix B to 10 CFR Part 50.

REPORT DETAILS

The U.S. Nuclear Regulatory Commission (NRC) inspection team observed various activities associated with the design, qualification, testing, and procurement of electrical components and process control systems, conducted interviews with responsible Scientech personnel, and reviewed test documents to determine if Scientech performed these activities in accordance with the applicable design, quality, and technical requirements.

- receipt inspection
    - wire harness
    - ensign power supply
- disposition of a supplier nonconformance for a power supply board
- assembly of time domain modules
    - soldering for the auxiliary harness assembly
    - hole punching and quality control inspection for the master board printed circuit assembly
- developing a certificate of conformance
- implementation of electrostatic discharge controls
- wave soldering of components on a printed circuit board

In addition to observing these activities, the NRC inspection team walked down Scientech's assembly floor and verified that Scientech had properly identified nonconforming materials, and marked and segregated them, when practical, to ensure they were not reintroduced into the production processes. The attachment to this inspection report lists the documents the NRC inspection team reviewed.

1. 10 CFR Part 21 Program

a. Inspection Scope

The NRC inspection team reviewed Scientech's policies and implementing procedures that govern its program under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance," to verify compliance with this regulation. In addition, the NRC inspection team reviewed a sample of 10 CFR Part 21 evaluations and Scientech's implementation of 10 CFR 21.21, "Notification of Failure to Comply or Existence of a Defect and Its Evaluation." To verify an adequate link to the 10 CFR Part 21 process, the NRC inspection team also reviewed Scientech's process and procedures that govern corrective actions to verify adequate implementation of the regulatory requirements identifying items that cause conditions adverse to quality. Furthermore, the NRC inspection team discussed the 10 CFR Part 21 program with Scientech management and technical staff.

b. Observations and Findings

b.1 10 CFR Part 21 Procedures and Implementation

The NRC inspection team verified that Scientech procedures provide the guidance and organizational structure necessary to implement the requirements of 10 CFR Part 21 and other related regulations associated with timely identification, evaluation, and reporting of defects and failures to comply that could create a substantial safety hazard. The NRC inspection team also verified that the procedures provide the necessary guidance to assess deviations and failures to comply in an effective and timely manner and provide appropriate guidance for interim reports.

The NRC inspection team reviewed the Scientech procurement procedures as well as a sample of POs and verified that the procurement process and each procurement document specified, when applicable, that the provisions for reporting of defects and noncompliances were required in accordance with 10 CFR 21.31, "Procurement Documents."

b.2 10 CFR Part 21 Evaluations

The NRC inspection team reviewed applicable nonconformance and corrective action reports to verify that Scientech adequately screened issues for evaluation within the 10 CFR Part 21 program. The NRC inspection team reviewed a sample of 10 CFR Part 21 evaluations dealing with inadequate or missed testing and modules experiencing output voltage drifts in which reporting was determined not to be required. The NRC verified that Scientech adequately completed the evaluations within the required timeframes with sufficient technical justification to determine the deviation did not constitute a defect.

The NRC reviewed Evaluation No. 21-13-01 that Scientech reported on March 1, 2013, which informed the NRC of a defect in dual alarm modules (DAMs) and single alarm modules (SAMs) that may contain faulty diodes in solid state relays. The NRC verified that the appropriate notifications were made in accordance with Part 21 requirements. In addition, the NRC inspection team noted that Scientech provided affected customers with a technical bulletin that provided detailed background information on this issue along with a method for visual inspection of the modules to asses if their alarm module could contain a faulty diode. Scientech performed a Part 21 evaluation (Evaluation No .21-12-28) on a similar deviation identified on October 2, 2012. The technical justification assessed the failure of 6 DAMS and SAMs and concluded that because of the number of failures (6 out of 1000) and the identification of multiple failure modes with no common cause, that the deviation did not constitute a defect. The NRC verified that the evaluation and justification were adequate.

b.3 10 CFR Part 21 Postings

The NRC inspection team reviewed the content of the Scientech Part 21 postings as well as the location of postings at the Scientech facility. The NRC inspection team verified that the information required in 10 CFR 21.6, "Posting Requirements," was included on the postings. The NRC inspection team walked

down the location and also verified that the required documents were posted in conspicuous locations consistent with the intent of 10 CFR 21.6.

c. Conclusion

The NRC inspection team reviewed Scientech policies and implementing procedures that govern Scientech 10 CFR Part 21 evaluation and reporting programs. Based on the limited sample of documents reviewed, the NRC inspection team concluded that Scientech adequately implemented its 10 CFR Part 21 programs.

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

a. Inspection Scope

The NRC inspection team reviewed Scientech's policies and implementing procedures that govern the implementation of Scientech's nonconforming material, parts, or components and corrective actions consistent with the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Action," 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." The NRC inspection team reviewed a sample of corrective action documents associated with 10 CFR Part 21 evaluations. In addition, the NRC inspection team reviewed a sample of safety-related nonconformance reports (NCRs) to verify that nonconforming items were reviewed and dispositioned in accordance with Scientech's implementing procedures.

b. Observations and Findings

b.1 Procedures

Standard Operating Procedure (SOP) 15.3, "Nonconformances," Revision 2, dated June 15, 2012, identifies methods and procedures for the control of services, materials, parts, or components that do not conform to specified requirements to prevent inadvertent use or installation. SOP 15.3 identifies three levels for reporting conditions adverse to quality: (1) traveler deficiency report (TDR) for nonconforming conditions discovered in the normal course of the manufacturing process before final testing that can be readily reworked within the confines of manufacturing; (2) NCR for conditions that require evaluation or disposition outside the normal manufacturing process and may have dispositions other than rework, and; (3) corrective action requests (CARs) for extensive or repetitive problems that require analysis to eliminate the root cause to prevent the problem from recurring. Each level of reporting has a respective SOP for how the TDR, NCR, or CAR should be initiated and processed. These procedures include:

- SOP 22.1, "Project Planning Documents," Revision 4, dated February 21, 2013
- SOP 15.5, "Supplier Nonconformance's," Revision 0, dated May 16, 2012
- SOP 16.1, "Corrective Action Report," Revision 1, dated June 19, 2012

b.2 Implementation of the Nonconforming Materials, Parts, or Components Program

The NRC inspection team verified that the disposition documentation for repaired or use-as-is items contained adequate justifications and that repaired or use-as-is items were subject to design control measures commensurate with those applied to the original design specification.

b.3 Implementation of the Corrective Action Program

The NRC inspection team verified a sample of CARs generated over the past 2 years related to customer returns appropriately identified and corrected conditions adverse to quality. In addition, the NRC inspection team verified that these items were evaluated appropriately for 10 CFR Part 21. However, the NRC inspection team found that CAR 09-007 failed to address design changes for relays that may affect their seismic qualification. The technical issue identified is documented in Section 3, "Inspection and Testing."

c. Conclusion

The NRC inspection team concluded that Scientech is implementing its policies and implementing procedures that govern its nonconforming materials, parts, or components consistent with the regulatory requirements of Criterion XV, "Nonconforming Materials, Parts, or Components."

However, the NRC inspection team issued Nonconformance 99901320/2013-201-01 in association with Scientech's failure to implement the regulatory requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. Specifically, Scientech identified a lack of dedication requirements for mechanical testing of seismically sensitive components such as relays, but failed to address if design changes for relays that have already been supplied to the industry invalidate their seismic qualification.

3. Inspection and Testing

a. Inspection Scope

The NRC inspection team reviewed Scientech's policies and implementing procedures that govern the implementation of the inspection and testing process to verify compliance with the regulatory requirements of Criterion IX, "Control of Special Processes," and Criterion X, "Inspection," of Appendix B to 10 CFR Part 50.

The NRC inspection team sampled the following modules supplied to the nuclear industry to verify that they will perform in accordance with technical requirements:

- NUS-B137QA, "Ensign Based Power Supply Qualification Report," dated April 8, 2010, Revision 4
- PO 45900601, dated January 26, 2012, for three different safety-related power supply submodules
- PO 7731624, Revision 0, dated January 28, 2013, for two input summer GEMAC replacement modules, Model 563-05

b. Observations and Findings

PO 7731624 required a certificate of conformance be provided to demonstrate that the replacement modules were qualified to NUS-A073QA, "GEN900 Version 2 Module Qualification Report," Revision 1, March 30, 2006. NUS-A073QA is a summary of the testing performed of test specimens, including testing of an input summer module. The testing demonstrated performance of the modules under varying temperatures, input, and output loads. Accelerated aging was not performed, nor were tests performed for radiation as these tests are not required for equipment located in a mild environment. Seismic qualification was derived from testing performed on similar components. The NRC inspection team found this approach to be acceptable since there were no seismically susceptible components contained within the input summer replacement modules.

The NRC inspection team observed that the Scientech power supply sub modules are all based on an Ensign Model 9061 01 solid state switching power supply. The power supply sub modules are mounted on Scientech custom designed circuit boards unique to the specific application along with mating hardware and peripheral devices. When requested, Scientech also supplies the power supply sub modules as a separate item. Scientech purchases these power supply sub modules from Ensign as a commercial-grade component. The NRC inspection reviewed the qualification report and verified that qualification of the Ensign Based Power Supply, NUS-B137QA, was adequately performed. Specifically, the NRC inspection team verified that Scientech identified design changes that affected the original qualification testing and reperformed testing as appropriate. The qualification report also listed what supplemental testing is to be performed for each production submodule, both those supplied by Scientech as discrete components and those supplied as part of a functional module. For those supplied as part of a module, Scientech performs no specific testing of the power supply submodule, as the submodules are tested as part of the overall module; however, production testing is done by Ensign on each power supply before they are shipped to Scientech.

The NRC inspection team reviewed modules supplied under PO 45900601 and verified that Scientech performed testing in accordance with NUS-B137TA, Revision 11, for each production unit. Testing performed included baseline functional tests, varistor tests, capacitor tests, continuity tests, no load, and full load voltage tests. The NRC inspection team verified that, in total, the combination of qualification and production testing that Scientech performed and the production testing that Ensign performed adequately established the performance of the supplied components.

The NRC inspection team observed that Scientech relies on a combination of individual and type testing to demonstrate modules will perform in accordance with technical requirements. While the testing regimen outlined in the above samples was found to be adequate for modules that do not contain seismically sensitive components, the NRC inspection team noted that many of the production modules Scientech supplies as original equipment manufacturer (OEM) replacements contain seismically sensitive components. Scientech has relied on testing performed to the Institute of Electrical and Electronics Engineers (IEEE) Standard 344 on test specimen modules; however, Scientech has not performed testing on production modules sufficient to establish similarity to the tested units. During the inspection, the NRC inspection team asked Scientech staff to explain their process for ensuring that there have been no design or

material changes to the seismically sensitive components that would invalidate its past seismic qualification testing. Scientech indicated that it had also recognized this as a weakness and had documented this concern in CAR 09-007, dated September 29, 2009. In response to the CAR, Scientech implemented corrective actions to ensure that moving forward the concern would be addressed. These actions include the purchase of a seismic shaker table and enhanced procedures to perform ongoing testing on sample components. However, the enhanced testing program had not been implemented at the time of the inspection. In addition, while the NRC inspection team concluded that Scientech had identified adequate corrective action to address this issue moving forward, Scientech failed to adequately address why the original seismic qualification testing was still valid for production modules already shipped that contain commercial-grade seismically susceptible components, given the lack of design control of the production relays. The NRC inspection team identified this as inadequate corrective action noted in Nonconformance 99901320/2013-201-01.

c. Conclusion

The NRC inspection team concluded that Scientech is implementing its policies and procedures that govern test control and M&TE programs consistent with the regulatory requirements of Criterion IX, “Control of Special Processes,” Criterion XI, “Test Control,” and Criterion XII, “Control of Measuring and Test Equipment,” of Appendix B to 10 CFR Part 50.

However, the NRC inspection team identified an example of inadequate corrective action noted in Nonconformance 99901320/2013-201-01.

4. Design Control

a. Inspection Scope

The NRC inspection team reviewed Scientech’s policy, procedures, and implementation documents for design and commercial-grade dedication activities to verify compliance with the requirements of Criterion III, “Design Control,” and Criterion VII, “Control of Purchased Material, Equipment, and Services,” of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed design documentation to verify that applicable design inputs were translated correctly into specifications, drawings, procedures, or instructions. Additionally, the NRC inspection team reviewed the dedication process and activities pertaining to fixed electrolytic capacitors.

b. Observations and Findings

b.1 Design Control

The NRC inspection team sampled change evaluations associated with: lead/lag and derivative controller; dual alarm module 800; ensign power supply; configuration cards; and a breaker switch. The NRC inspection team verified that the design activities and any related changes were accomplished in accordance with the approved procedures. The NRC inspection team verified that a sample of engineering change notices and document change notices included all relevant considerations and specifications. The NRC inspection team verified that individuals other than those who performed the original design performed design

verification and that design changes underwent the same level of review as the original design.

As part of its design process, the NRC inspection team observed that Scientech developed equivalency review documents to document the desired input and output characteristics, and other relevant technical specifications of the Scientech replacement modules. In most cases, the specifications are taken from the OEM requirements. The NRC inspection team reviewed NUS-A087SA, "GE/MAC Type 560 Alarm Unit to NUSI DAM900-5660-3 Dual Alarm Unit and SAM900-560-1 Single Alarm Unit Equivalency Review," dated March 16, 2005, Revision 4. This document provided a listing and a comparison of the technical requirements of the OEM to the Scientech designed replacement device. The team also reviewed NUS-A031SA, "Specified Function Generator to NUSI GEN801 Module," dated April 26, 2004, Revision 0.

In addition, the NRC inspection team reviewed safety-related PO 7731624, Revision 0, dated January 28, 2013, for two input summer GEMAC replacement modules, Model 563-05. The NRC inspection team reviewed the Scientech equivalency review document NUS-A005SA, Revision 1, which established the technical parameters for the replacement summer module. OEM parameters were derived from GE/MAC Product Instruction HBK 8056-2B. The NRC inspection team verified that the equivalency documents captured relevant technical requirements for the modules reviewed.

b.2 Dedication and Acceptance Testing

The NRC inspection team reviewed a sample of dedications to determine if the process identified in SOP 19.1, "Commercial Grade Dedication," was being adequately implemented. SOP 19.1 details two methods that allow Scientech to use commercial-grade items in safety applications. The first method is through dedication of finished components for direct sale to the customer. The second method is using the commercial-grade parts as part of a larger assembly that would be assembled, inspected, tested, and controlled through Scientech's quality assurance program. The NRC inspection team verified that Scientech conforms to the guidance contained in Electric Power Research Institute 5652, "Guideline for the Utilization of Commercial Grade Items in Nuclear Safety-Related Applications," dated June 1, 1988, as conditionally endorsed by NRC Generic Letter 89-02, "Actions to Improve the Detection of Counterfeit and Fraudulently Marketed Products," dated March 21, 1989, for their dedication of finished components through reviewing a dedication package of electrolytic capacitors. The NRC inspection team verified that the process Scientech used to dedicate commercial-grade parts as part of a larger assembly was adequate as the acceptability of the commercial-grade parts was established through a combination of the production testing performed on each completed module and qualification testing performed on test specimens. The NRC inspection team verified the controls that Scientech put in place throughout the assembly process were adequate to ensure that critical characteristics of the production modules were met and that the production modules were sufficiently similar to those test specimens used for qualification testing (except in the case for seismically sensitive components as discussed in Nonconformance 99901320/2013-201-01).

The NRC inspection team reviewed a sample of commercial-grade surveys to verify that Scientech adequately reviewed and approved appropriate controls of critical characteristics to their suppliers. The NRC inspection team also observed an issuance of a COC for a dual alarm module to ensure that the appropriate procedure and quality controls were verified throughout the process.

c. Conclusion

The NRC inspection team concluded that Scientech is implementing its policies and procedures that govern the design control and commercial-grade dedication programs consistent with the regulatory requirements of Criterion III, "Design Control," and Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50.

5. Oversight of Contracted Activities and Audits

a. Inspection Scope

The NRC inspection team reviewed Scientech's policies and implementing procedures that govern the implementation of its oversight of contracted activities program to verify compliance with the requirements in 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, receipt inspection records, annual evaluations, and external audits to evaluate Scientech's compliance with its program and technical requirements. In addition, the NRC inspection team reviewed the disposition of corrective actions to resolve deficiencies that audit findings identified for adequacy and timeliness. Furthermore, the NRC inspection team discussed the oversight of contracted activities with Scientech's management and technical staff.

b. Observations and Findings

b.1 Procurement Document Control

The NRC inspection team verified that the POs adequately documented the procurement requirements as established by Scientech's governing policies and implementing procedures, which include (1) imposition of appropriate quality, technical, and regulatory requirements and (2) identification of the applicable codes and standards. The NRC inspection team also verified that these POs adequately defined contract deliverables, instructions for the disposition of nonconformances, access rights, and provisions for the extension of contractual requirements to subcontractors.

Specifically, the NRC inspection team reviewed PO 45900601, dated January 26, 2012, for three different safety-related power supply submodules. The PO imposed Appendix B to 10 CFR Part 50, 10 CFR Part 21, and NQA-1-1994, "Quality Assurance Requirements for Nuclear Facility Applications". The power supply modules also were required to be certified to the applicable Scientech qualification reports.

In addition, the NRC inspection team reviewed NUS-B137SA, Revision 0, dated March 13, 2008, “Ensign Based Power Supplies,” which provides the specifications for the power supply modules. Included within the specification were the acceptance criteria related to the input and output voltages, frequency, drift, regulation, and other parameters. The parameters chosen were based on the input power requirements for the parent function and control modules. The NRC inspection team verified that Scientech had performed a commercial-grade survey of Ensign and had implemented contractual requirements to approve any changes in design to the Ensign submodule. The team reviewed several Ensign design changes to the module that had been made to improve performance and to address performance deficiencies and verified that the subsequent changes were appropriately captured on the corresponding Ensign documents.

The NRC inspection team reviewed PO 12-00263, dated February 6, 2012, from Scientech to Ensign for 125 power supply modules. The team verified that the PO to Ensign invoked the Ensign quality assurance program that Scientech had previously reviewed and approved. Ensign also supplied test data for each of the supplied modules that included testing to show the acceptability of the power supply output over a range of input voltages.

The NRC inspection team reviewed commercial-grade survey No. SS-11-04 performed by Scientech of Ensign, dated November 17, 2011. The survey was performed using Revision 6 of the NUPIC Commercial Grade Item Survey Checklist. The survey focused on several aspects of the Ensign quality program important to the work being performed for Scientech. Three relatively minor issues were identified by Scientech. Overall, the NRC inspection team determined that the survey was sufficient to verify the important aspects of the Ensign commercial manufacturing process.

b.2 Maintenance of the Approved Suppliers List

The NRC inspection team verified that the approved suppliers list (ASL) contained qualified and approved suppliers; that the lists were maintained, distributed, and periodically updated by authorized personnel; and that any revisions to the lists were implemented following the applicable procedures. In addition, the NRC inspection team confirmed that the scope of supply was documented and consistent for the activities contracted.

b.3 External Audits

The NRC inspection team verified that Scientech had prepared and approved plans that identify the audit scope, focus, and applicable checklist criteria before the initiation of the audit activity. The NRC inspection team confirmed that the audit reports contained a review of the relevant QA criteria in Appendix B to 10 CFR Part 50 for the activities that individual suppliers performed and documentation of pertinent supplier guidance associated with each criterion. For audits that resulted in findings, the NRC inspection team verified that the supplier had established a plan for corrective action and that Scientech had reviewed and approved the corrective action and verified its satisfactory completion and proper documentation.

Scientech is a member of the Nuclear Industry Assessment Committee (NIAC), which consists of companies that supply goods and services to the nuclear industry based on a quality program that meets the requirements in Appendix B to 10 CFR Part 50 and that accept 10 CFR Part 21. NIAC develops and maintains procedures and processes necessary to plan, guide, and share supplier evaluations (audits) with its members. Scientech uses NIAC audits to support the qualification and maintenance of suppliers. Once an NIAC audit is received, Scientech's QA Manager reviews the audit for completeness and adequacy, evaluates the audit report in accordance with Scientech's QA program and the appropriateness of the scope, and approves the audit report as the basis for including the vendor on the ASL.

b.4 Receipt Inspection

The NRC inspection team observed that Scientech performs receipt inspection on all of its procured material and services. Upon receipt of direct material or direct services, Scientech's QC staff inspects the items or the results of the services and documents the results of the inspection in a Receipt Inspection Report (RIR). This RIR documents the acceptability of the items or services and its disposition.

The NRC inspection team observed the receipt inspection of a wire harness and an Ensign power supply. The NRC inspection team observed the Scientech QC inspector review the necessary documentation, confirm the PO information, conduct a review for any obvious damage, verify the quantity received, and verify the applicable receipt inspection requirements based on NUS-G010EA. The NRC inspection team also verified that the Scientech QC inspector used various calibrated measuring and testing equipment (M&TE) during the inspections and confirmed that the QC inspector was knowledgeable about the proper use and configuration of each instrument.

The NRC inspection team also noted that Scientech has incorporated a "Counterfeit and Suspect Items" criteria into all of its receipt inspection activities. Scientech uses the criteria defined in Information Notice No. 89-70, "Possible Indications of Misrepresented Vendor Products," dated October 11, 1989, as a guideline for detecting counterfeit and suspect items during receipt inspection activities.

During discussions with the NRC inspection team, the QC inspector stated that if there is any receipt inspection criteria that is not met during receipt inspection, the QC inspector will initiate a supplier NCR and forward it to the Engineering Department for further disposition.

b.5 Qualification and Training of Auditors and Lead Auditors

The NRC inspection team reviewed a sample of the training and qualification records of Scientech's lead auditors and auditors and confirmed that auditing personnel had completed all required training and had maintained qualification and certification in accordance with Scientech's policies and procedures. The NRC inspection team also verified that the audit teams that Scientech selected were sufficiently qualified to evaluate areas within the scope of the audit.

b.6 Qualification and Training of Inspection Personnel

The NRC inspection team verified that Scientech had established and implemented a training and qualification program for the training and qualification of inspection personnel. Scientech's procedure SOP 10.1, "Qualification and Certification of Inspection and Test Personnel, Revision 0, dated February 9, 2012, contains the requirements for selection, training, qualification, and administration of inspection personnel. The NRC inspection team verified that the training and qualification records were complete and current and were in accordance with SOP 10.1.

c. Conclusion

The NRC inspection team concluded that Scientech is implementing its policies and implementing procedures that govern the oversight of contracted activities consistent with the regulatory 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.

6. Control of Measuring and Test Equipment

a. Inspection Scope

The NRC inspection team reviewed Scientech's policies and implementing procedures that govern the M&TE program to verify compliance with the requirements in Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50. The NRC inspection team also reviewed a sample of calibration records for various M&TE. In addition, the NRC inspection team discussed the M&TE program with Scientech's management and technical staff.

b. Observations and Findings

The NRC inspection team performed visual inspection of a sample of M&TE. The NRC inspection team verified that the M&TE used had appropriate calibration stickers and current calibration dates, including calibration due dates, and that the associated calibration records were current and available for review. The calibration records that the NRC inspection team reviewed also indicated the as-found and as-left conditions, accuracy required, calibration results, calibration dates, due date for recalibration, and the applicable National Institute of Standards and Technology reference for the equipment used in the calibration. The NRC inspection team also verified that the selected M&TE was calibrated using procedures traceable to known industry standards.

In addition, the NRC inspection team confirmed that for M&TE that's found to be in an out of tolerance condition once it is returned from the calibration supplier, Scientech initiates a NCR to evaluate the validity and acceptability of previous measurements, inspections, and tests results for items previously inspectioned or tested with the affected M&TE.

During discussions on the calibration of M&TE with Scientech personnel, the NRC inspection team was informed that Scientech does not have an onsite M&TE program; instead, it subcontracts most of the calibration services to different

commercial-calibration suppliers. Scientech developed a procedure for the dedication of commercial-grade calibration services, NUS-G024BA, "Generic Commercial[-]Grade Dedication Procedure for M&TE Calibration Services," Revision 1, dated June 5, 2012, which provides guidance for the dedication of commercial-grade calibration services for nuclear safety-related applications. The NRC inspection team verified that Scientech is adequately dedicating its commercial-grade calibration services in accordance with NUS-G024BA.

c. Conclusion

The NRC inspection team concluded that Scientech is implementing its policies and procedures that govern test control and M&TE programs consistent with the regulatory requirements in Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50.

7. Entrance and Exit Meetings

On March 4, 2013, the NRC inspection team discussed the inspection scope during an entrance meeting with Mr. Vince Chermak, the QA manager, and other Scientech personnel. On March 7, 2013, the NRC inspection team presented the inspection results during an exit meeting.

ATTACHMENT

1. PERSONS CONTACTED

Name	Title	Affiliation	Entrance	Exit	Interviewed
Richard Street	Support Group Supervisor	Scientech	X		
Shauna Boyock	Manufacturing Supervisor	Scientech	X		
Mitch Shearer	Testing Supervisor	Scientech	X		
Scott Baker	QA Engineer	Scientech	X	X	X
Susie Greenbush	QC Supervisor	Scientech	X		X
Vince Chermak	QA Manager	Scientech	X	X	X
Sheryl Carlson	QA Document Control	Scientech	X		
Mike Weinstein	QA Director of Quality	Scientech	X	X	
Greg Hodel	Repair Supervisor	Scientech	X		
Dan Hunt	QA Engineer	Scientech	X	X	X
Garyson Bitsoie	QA Engineer	Scientech	X	X	X
L. Kent Davies	Planning Manger	Scientech	X	X	
Jim Saunders	Engineering Supervisor	Scientech	X		X
John McGimpsen	Engineering Manager	Scientech	X	X	X
Jay McCown	Planning Supervisor	Scientech	X		
Valerie Christensen	Sales Supervisor	Scientech	X	X	
Davie Dille	Materials Supervisor	Scientech	X		
Thomas Hammad	Production Manager	Scientech	X	X	
Johnnie Greenbush	QC Supervisor	Scientech		X	
Bob Queenan	I&C Division Manager	Scientech		X	
Jeff Breen	Quality Control Inspector	Scientech			X
Stacy Smith	Operations Engineer	NRC	X	X	
Jeff Jacobson	Senior Engineer	NRC	X	X	
Eugene Huang	Operations Engineer	NRC	X	X	
Yamir Diaz-Castillo	Operations Engineer	NRC	X	X	

2. INSPECTION PROCEDURES USED

Inspection Procedure 36100, “Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance,” dated February 13, 2012

Inspection Procedure 43002, “Routine Inspections of Nuclear Vendors,” dated April 25, 2011

Inspection Procedure 43004, “Inspection of Commercial Grade Dedication Programs,” dated April 25, 2011

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description
99901320/2013-201-01	Open	NON	Criterion XVI

4. DOCUMENTS REVIEWED

Quality Assurance Manual, Revision 9, dated April 30, 2012

Audits

- External audit No. 12-03 of Analysis and Measurement Services Corp, dated October 26, 2012
- External audit No. 12-01 of Diversified Metal Products, dated January 12, 2012
- External audit No. 17127 of Qualtech NP, dated February 15, 2012
- External audit No. 12-02 of Nuclear Power Services, Inc., dated March 2, 2012
- External audit No. 17105 of Exelon Power Labs, dated January 9, 2012
- Annual Review No. 13-01 of Diversified Metal Products, dated January 12, 2013
- Annual Review No. 13-03 of First Energy Beta Laboratory, dated February 13, 2013
- Annual Review No. 11-08 of Exelon Power Labs, dated October 4, 2011

Certificate of Calibration

- Certificate of Calibration No. 0010729461 for the NUS 1138 torque wrench, dated November 7, 2012
- Certificate of Calibration No. 0010710908 for the NUS 6530300 multimeter, dated July 24, 2012
- Certificate of Calibration No. 0010710901 for the NUS B010753 digitalizing oscilloscope, dated July 21, 2012

- Certificate of Calibration No. 0010710910 for the NUS 7483526 LCR meter, dated July 19, 2012
- Certificate of Calibration No. 0010710906 for the NUS AC/DC current clamp, dated July 16, 2012
- Certificate of Calibration No. 0010710903 for the NUS 1182529 digital multimeter, dated July 17, 2012
- Certificate of Calibration No. 0010710911 for the NUS 41974 vernier caliper, dated July 16, 2012
- Certificate of Calibration No. 0010710905 for the NUS 003 digital caliper, dated July 16, 2012
- Certificate of Calibration No. 0010710904 for the NUS MY49110154 oscilloscope, dated July 19, 2012
- Certificate of Calibration No. 0010710907 for the NUS 002 digital caliper, dated July 16, 2012
- Certificate of Calibration No. 0010693928 for the NUS 1798 temperature probe, dated March 16, 2012
- Certificate of Calibration No. 0010693933 for the NUS 9905220 pin gage set, dated April 13, 2012
- Certificate of Calibration No. 0010727191 for the NUS 90966909 timer, dated October 24, 2012
- Certificate of Calibration No. 0010727194 for the NUS 90725580 stopwatch, dated October 24, 2012
- Certificate of Calibration No. 0010727182 for the NUS 05037451 outside micrometer, dated October 29, 2012
- Certificate of Calibration No. 0010727200 for the NUS B29163 dual-well dry block calibrator, dated October 25, 2012
- Certificate of Calibration No. 0010708995 for the NUS 004 torque screwdriver, dated July 3, 2012

<u>Corrective Action Requests (CARs)</u>

- CAR 12-015
- CAR 12-024
- CAR 12-052, dated October 4, 2012
- CAR 13-004, dated February 26, 2013
- CAR 12-060, dated November 6, 2012
- CAR 12-010, Revision 0, dated February 3, 2012
- CAR 12-030, Revision 1, dated May 25, 2012

- CAR 12-062, Revision 1, dated December 13, 2012
- CAR 13-0005, Revision 1, dated February 26, 2013
- CAR 13-000003, Revision 1, dated February 8, 2013
- CAR 12-009, Revision 0, dated January 24, 2012
- CAR 12-019, Revision 0, dated March 15, 2012
- CAR 12-38, Revision 1, dated July 24, 2012
- CAR 11-0007, Revision 0, dated October 19, 2011

Nonconformance Reports

- NCR 12N-135, Revision 0
- NCR 12N-135, Revision 1
- NCR 11N-111, dated September 15, 2011
- NCR 11N-110, Revision 1, dated September 14, 2011
- NCR 12N-010, dated January 27, 2012
- NCR 12N-044, dated April 9, 2012
- NCR 12N-059, dated May 23, 2012
- NCT 12N-100, dated July 26, 2012
- SNCR 13-00282-1, Revision 0, dated March 1, 2013

Part 21 Evaluations

- Evaluation No. 21-11-05, Revision 0, dated September 16, 2011
- Evaluation No. 21-11-06, Revision 0, dated September 16, 2011
- Evaluation No. 21-13-01, Revision 0, dated February 6, 2013
- Evaluation No. 21-12-27, dated September 19, 2012
- Evaluation No. 21-13-01, Revision 0, dated February 6, 2013
- Evaluation No. 21-12-28, Revision 2, dated October 2, 2012

Standard Operating Procedures (SOPs)

- SOP 4.1, “Procurement of Direct Material,” Revision 3, dated August 2, 2011
- SOP 4.2, “Procurement of Direct Services,” Revision 1, dated January 11, 2010
- SOP 7.4, “Receipt Inspection,” Revision 1, dated May 4, 2012
- SOP 10.1, “Qualification and Certification of Inspection and Test Personnel,” Revision 0, dated February 9, 2010
- SOP 12.1, “Control of Measuring and Test Equipment,” Revision 0, dated October 4, 2010
- SOP 15.1, “10 CFR Part 21 Evaluation and Reporting of Defects and Noncompliance,” Revision 4, dated February 21, 2013
- SOP 15.2, “Supplier Disposition Request,” Revision 0, dated September 23, 2010
- SOP 15.3, “Nonconformance’s,” Revision 2, dated June 15, 2012

- SOP 15.4, “Supplier Corrective Action Requests,” Revision 0, dated August 31, 2010
- SOP 15.5, “Supplier Nonconformances,” Revision 0, dated May 16, 2012
- SOP 16.1, “Corrective Action Report,” Revision 1, June 19, 2012
- SOP 18.1, “Qualification and Certification of Audit Personnel,” Revision 0, dated April 5, 2010
- SOP 18.2, “Conduct of Audits,” Revision 1, dated February 17, 2012
- SOP 18.3, “Evaluation of Third Party Audits,” Revision 0, dated April 6, 2010

Procedures

- Procedure NUS-G024BA, “Generic Commercial Grade Dedication Procedure for M&TE Calibration Services,” Revision 0, dated June 5, 2012

Purchase Orders (POs)

- PO No. 12-02164 to Ensign Power Supply for a power supply, dated November 13, 2012
- PO No. 13-00106 to Kimco Design & Manufacturing for a harness and a wire harness, dated January 18, 2013
- PO No. 13-00175 to Exelon Power Labs for the calibration of Agilent Multimeters, dated January 29, 2013
- PO No. 12-0237 to Qualtech NP for electromagnetic interference/radiofrequency interference (EMI/RFI) testing of temperature transmitters, dated October 31, 2012
- PO No. 12-0255 to Nuclear Power Services, Inc., for seismic qualification of time delay relays, dated December 5, 2012
- PO No. 12-0084 to AMS Technology Center for electromagnetic compatibility of qualification of manual control station AMS827, dated February 15, 2012
- PO No. 12-0025 to Exelon Power Labs for EMI/RFI testing of fuse module FUS2400-1307, dated January 11, 2012
- PO No. 13-00212 to Gavial Engineering & Manufacturing, Inc., for a 9284 meter printed circuit board assembly, dated January 31, 2013
- PO No. 13-00295 to Gavial Engineering & Manufacturing, Inc., for a 3100C power supply, dated February 19, 2013
- PO 10325252, Waterford to Scientech, dated August 30, 2011
- PO No. 12-00834 to Diversified Metal Products for spot weld housing assembly, dated May 8, 2012

- PO 4500655666, PSEG/Salem, dated November 30, 2011
- PO No. 12-0229 to Qualtech NP for seismic testing of basic controller CON2000-701, dated October 3, 2012
- PO 12-01158, Techni-tool to Scientech, dated June 27, 2012
- PO No. 4500706054 Salem to Scientech capacitor 6mF, 600VAC, dated October 29, 2012
- PO No. 4500706054, capacitor 6mF, 600VAC, film. Polypropylene, project #38494, Revision 0
- PO No. 12-02163, Ensign Power Supply to Scientech—ensign power supply, dated November 13, 2012
- PO No. 02310014 from Turkey Point to Scientech for TMD830-04/00/00/00-07-08, dated December 20, 2012
- PO No. 12-01846, Precision Technology to Scientech, dated October 3, 2012
- PO No. 12-01845, Controltek to Scientech, dated October 3, 2012
- PO No. 12-01143, dated July 16, 2012
- PO No. 12-01830, dated October 2, 2012
- PO No. 13-00377, dated February 27, 2013
- PO No. 12-02239, dated November 21, 2012
- PO No. 09-155, dated March 3, 2009
- PO No. 09-446, dated June 18, 2009

<u>Training Records</u>

- Training records for the following lead auditors and auditors: Scott Baker, Dan Hunt, Garyson Bitsoie, Darrin Brown, Eric Lage, Vince Chermak, Susie Greenbush, and Michelle Rourick
- Training records for the following quality control inspectors: Teresa Morrison, Johnnie Sue Greenbush, Michelle Rourick, Tonia Guinn, Denise Burgoyne, Richard Bronson, Jeff Breen, Greg Robinson, Todd Thompson, Jordan Law, and Chandalee Beck

Additional Documents

- Engineering Data Brief No. NUS-G010EA, Revision 12, dated July 2012
- Letter to Bob Queenan from M. Weinstein, "Extension of Scientech QA Program to Contracted Engineering Services," dated April 18, 2011
- Approved Suppliers List Short Form, dated February 27, 2013
- Approved Suppliers List Long Form, dated February 27, 2013
- Receipt Inspection Report Nos. 12-099, 12-365, 12-739, 12-960, 12-987, 12-1011, 12-02164, 13-00106, 13-00212, 13-00295, 12-01967, 12-871, 12-422, 12-01852, 12-872, and 12-01605
- Ensign, Engineering Change Order, E-9061-10, dated December 16, 2008
- Ensign, Engineering Change Order, E-9061-12, dated May 11, 2009
- Ensign, Engineering Change Order, E-9061-13, dated January 6, 2010
- Ensign, Engineering Change Order, E-9061-14, dated August 4, 2010
- Ensign, Engineering Change Order, E-9061-15, dated August 30, 2010
- Ensign, Engineering Change Order, E-9061-16, January 5, 2011
- Ensign Bill of Materials for 9061-01
- Project plan & authorization #38262 for a breaker switch, dated July 26, 2012
- Certification and test record, dated July 31, 2012
- Operation sheet, configuration card assembly, dated July 9, 2012
- Vishay document 42042, aluminum capacitors little-lytic electrolytics, dated August 12, 2009
- Certificate of conformance for 30 electrolytic capacitor, 100mFD, 3VDC, Type 30D, dated November 29, 2011
- Composite certification record dedication of fixed capacitors, NUS-G012BA, Revision 0, dated November 17, 2011
- Certificate of conformance from PO 4500017152 from Surry to Scientech, dated September 28, 2012
- Certificate of conformance—for dual alarm modules, dated March 4, 2013
- NUS-A187GA, failure modes and effects analysis NUSI modules at FP&L Turkey Point, Revision 0

- NUS-A276UA, AMS827 EMI/RFI test report, Revision 2
- NUS-A040XA, MAN2000-722 EMI/RFI test report, Revision 0
- NUS-A047XA, DYC2000-755 dynamic compensator module-EMI/RFI test report, Revision 0
- Project #38562, po#45406460, Revision 1 model BLC2000-721-02
- Work authorization #38562-0001, Revision 1
- ECN-13-002, Revision 0
- NUS-A186EA, TMD830 qualification EDB, Revision 0
- WA #38200-0022, dated November 28, 2012, Revision 6
- TMD830 qualification report, NUS-A186QA, Revision 1
- NUS-A186LA, test plan for TMD830 modules, Revision 0
- NUS-A186SA, equivalency review of the NUSI TMD830 module to the HAGAN optimac lead lag controller, Revision 0
- Quality Plating Vo., Inc. Survey-SS-12-04, dated July 13, 2012
- Western Electronics, SS-12-02, dated June 18, 2012
- Advantage Engineering, Inc., SS-12-05, dated August 30, 2012
- Hoyt Electrical Instrument Works, Inc., SS-12-03, dated June 21, 2012
- Advanced Circuits Assembly Survey-SS-11-01, dated October 28, 2011
- WA #38200-0021, Revision 5, dated November 16, 2012
- WA #38488-0004, Revision 4, January 25, 2013
- EIP-QR-DAM800, Qualification Report for DAM800, Revision 3
- EIP-TP-019, Test Plan for DAM800 and SAM800 Alarm Modules, Revision 1
- EDB-192, dated December 19, 1995
- Document Change Notice-DCN-12-070, dated October 2, 2012
- Technical Bulletin, “Solid State Relays,” Volume 47, issued March 2013