March 7, 2014

Mr. Bill Ross, Quality Assurance Manager
EnerSys
2366 Bernville Rd.
Reading, PA 19605

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION OF ENERSYS REPORT NO. 99901435/2013-201

Dear Mr. Ross:

From February 10 to February 13, 2014, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the EnerSys's manufacturing facility in Hays, KS. The purpose of the limited-scope inspection was to assess Enersys' compliance with the provisions of selected portions of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and 10 CFR Part 21, "Reporting of Defects and Noncompliance."

This inspection specifically evaluated EnerSys's design, qualification, and commercial-grade dedication of safety-related batteries supplied to U.S. operating reactor plants. The enclosed report presents the results of this inspection. This NRC inspection report does not constitute NRC endorsement of your overall quality assurance (QA) or 10 CFR Part 21 programs.

Based on the results of this inspection, the NRC inspection team found that the implementation of your QA program meets NRC requirements imposed on you by your customers or NRC licensees. Within the scope of this inspection, no violations or nonconformances were identified. No response is required.

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 document system, Agencywide Documents Access and Management System, which is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

Sincerely,

/RA/

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

Docket No.: 99901435

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Sincerely,

/RA/

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Electrical Vendor Inspection Branch
Division of Construction Inspection
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Office of New Reactors

Docket No.: 99901435
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U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NEW REACTORS
DIVISION OF CONSTRUCTION INSPECTION AND OPERATIONAL PROGRAMS
VENDOR INSPECTION REPORT

Docket No.:	99901435
Report No.:	99901435/2013-201
Vendor:	EnerSys 1 Enersys Rd. Hays, KS 67601
Vendor Contact:	Mr. Bill Ross, Quality Assurance Manager bill.ross@enersys.com
Background:	The EnerSys manufacturing facility is located in Hays, Kansas. This facility provides Class 1E batteries for safety-related applications to U.S. nuclear power plants. This facility is qualifying the batteries for the AP1000. This inspection will be the first at this EnerSys manufacturing facility in Hays, Kansas and will only focus on batteries being supplied to operating reactors (EnerSys GN product type).
Inspection Dates:	February 10-13, 2014
Inspection Team Leader:	Stacy Smith, NRO/DCIP/EVIB
Inspectors:	Jose Jimenez, NRO/DCIP/EVIB Annie Ramirez, NRO/DCIP/EVIB Frank Talbot, NRO/DCIP/QVIB
Approved by:	Richard A. Rasmussen, Chief Electrical Vendor Inspection Branch Division of Construction Inspection and Operational Programs Office of New Reactors

EXECUTIVE SUMMARY

EnerSys
99901435/2013-201

The U.S. Nuclear Regulatory Commission (NRC) conducted this vendor inspection to verify that EnerSys implemented an adequate quality assurance (QA) program that complies with the requirements of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and 10 CFR Part 21, "Reporting of Defects and Noncompliance."

This inspection specifically evaluated EnerSys's design, qualification, and commercial-grade dedication of safety-related batteries, the EnerSys GN product type, supplied to U.S. operating reactor plants. The NRC inspection team reviewed the initial qualification of the GN product type, design changes since the initial qualification, and testing performed during the inspection. In addition, the inspection team reviewed EnerSys's nonconformance, corrective action, and 10 CFR Part 21 programs. The NRC conducted this inspection at EnerSys's facility in Hays, KS.

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

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

Inspection procedures (IP) to be used include IP 43002, "Routine Inspections of Nuclear Vendors," 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.

10 CFR Part 21

The inspectors determined that EnerSys appropriately translated the requirements of 10 CFR Part 21 into their implementing procedures and, for those activities that the inspectors reviewed, implemented them as required. No findings of significance were identified.

Design Control and Qualification

The NRC inspectors determined that EnerSys's policy and procedures for design control and battery qualification satisfy the regulatory requirements set forth in Criterion III, "Design Control," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Commercial-Grade Dedication and the Manufacturing Process

The inspectors determined that the implementation of EnerSys's programs for the assembly, inspection, testing, and commercial-grade dedication activities were consistent with the regulatory requirements of Criterion III, "Design Control," Criterion X, "Inspection," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50.

Measuring and Test Equipment

The NRC inspectors concluded that EnerSys has established a program that adequately controls calibration and use of measuring and test equipment in accordance with the regulatory requirements of Criterion XII, “Control of Measuring and Test Equipment,” of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Nonconformances and Corrective Actions

The inspectors determined that the implementation of EnerSys’s programs for control of nonconforming material, parts, or components and corrective action were consistent with the regulatory requirements in Criterion XV, “Nonconforming Materials, Parts, or Components,” and Criterion XVI, “Corrective Action,” of Appendix B to 10 CFR Part 50. No findings of significance were identified.

Internal Audits

The NRC inspection team determined that EnerSys established a program that adequately controls audit activities in accordance with the regulatory requirements of Criterion XVIII, “Audits,” of Appendix B to 10 CFR Part 50. The NRC inspection team determined that EnerSys is effectively implementing its internal audit program. No findings of significance were identified.

REPORT DETAILS

1. 10 CFR Part 21 Program

a. Inspection Scope

The inspectors reviewed EnerSys's policies and implementing procedures that govern its Title 10 of the Code of Federal Regulations (10 CFR) Part 21 program to verify compliance with the requirements of 10 CFR Part 21. The inspectors also reviewed EnerSys's procedures that govern corrective actions and the control and correction of nonconforming items to verify an adequate link to the 10 CFR Part 21 process. Quality Assurance Procedure (QAP) 80.0, "10 CFR Part 21 Reporting Non-conforming Material," and EnerSys's Quality Assurance Manual establish the requirements for compliance with the requirements in 10 CFR Part 21. The inspectors reviewed EnerSys's 10 CFR Part 21 policy and procedures and related documentation, and interviewed quality assurance (QA) staff members. The inspection team verified that QAP 62.0, "Material Review Report (MRR) Procedure," and QAP 73.0, "Corrective Action Procedure," provide adequate links to the Part 21 procedure. Specifically, the NRC inspection team evaluated implementation of the 10 CFR Part 21 reporting program by sampling 40 MRR forms (Form 5-137A) and Corrective Action Request (CAR) forms (Form 5-249) which required evaluations of deviations from technical requirements that could create a substantial safety hazard.

b. Observations and Findings

No findings of significance in this area were identified.

c. Conclusions

The inspectors determined that EnerSys appropriately translated the requirements of 10 CFR Part 21 into their implementing procedures and, for those activities that the inspectors reviewed, implemented them as required. No findings of significance were identified.

2. Design Control and Qualification

a. Inspection Scope

The inspectors reviewed EnerSys's policies and procedures for design control and battery qualification to verify compliance with Criterion III, "Design Control," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. The inspectors evaluated EnerSys's design change control process and procedures established in EnerSys's Quality Assurance Manual. Specifically, the inspectors reviewed design changes to ensure they would not invalidate the qualified GN product type with respect to seismic, aging, radiation, and electrical properties. In addition, the inspectors reviewed EnerSys's 50.59 like evaluation performed for each design change. The inspectors reviewed GN product type qualification in Wyle Test Report 46647-1 to verify qualification per ANSI/IEEE-535-1986, "IEEE Standard for Qualification of Class 1E Lead Storage Batteries for Nuclear Power Generating Stations." The inspectors also reviewed purchase order (PO) No. 45438333, for GN-13 battery systems for First Energy, and PO No. 4500005970, GN-23 battery systems for Dominion, to ensure they included the appropriate regulatory requirements and product qualification specified by the customers.

b. Observations and Findings

No findings of significance in this area were identified.

c. Conclusions

The NRC inspectors determined that EnerSys's policy and procedures for design control and battery qualification satisfy the regulatory requirements set forth in Criterion III, "Design Control," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. No findings of significance were identified.

3. Commercial-Grade Dedication and the Manufacturing Process

a. Inspection Scope

The NRC inspectors reviewed EnerSys's policies and procedures governing the implementation of its commercial-grade dedication program, including assembly and testing, to verify compliance with Criterion III, "Design Control," Criterion X, "Inspection," Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed QAP-70, "Dedication of Commercial Grade Items (CGI) for Nuclear Safety Related Items" which provides the methodology for dedicating commercial-grade items/services to be installed in Class 1E batteries, including the development for critical characteristics and acceptance criteria and methods. The NRC inspection team reviewed the nuclear-qualified battery (GN product type) process characteristic control plan that included critical characteristics. In addition, the inspectors reviewed a sample of inputs to the dedication process, including: 1) customer purchase orders, 2) development of critical characteristics, and 3) acceptance process. The inspectors noted that EnerSys was in the process of updating their commercial-grade dedication process for GN batteries and formalizing the method they already use for technical evaluations; therefore, the NRC was not able to verify the adequacy of those these changes at the time of the inspection.

The NRC inspection team observed the acceptance discharge testing for PO No. 45438333, for GN-13 battery systems for First Energy, and specifically verified that the requirements listed in the purchase order were adequately translated to the test plan. The inspectors evaluated the setup and implementation of the testing. During the test, the inspectors verified that the batteries' discharge characteristics and the amp-voltage profile were in accordance with the as-built design characteristics.

b. Observations and Findings

No findings of significance in this area were identified.

c. Conclusions

The inspectors determined that the implementation of EnerSys's programs for the assembly, inspection, testing, and commercial-grade dedication activities were consistent with the regulatory requirements of Criterion III, "Design Control," Criterion X, "Inspection," and Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50.

4. Measuring and Test Equipment

a. Inspection Scope

The NRC inspectors reviewed Measuring and Test Equipment (M&TE) policies and procedures to determine if EnerSys's controls were in compliance with the regulatory requirements of Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50. In addition, the inspectors verified the implementation of M&TE control through direct observation of inspection activities of EnerSys personnel and review of certificates of calibration for a sample of M&TE.

In addition, the NRC inspectors evaluated a sample of M&TE associated with the acceptance discharge testing of the GN-13 battery system. The inspectors sampled some of the instruments used during the testing to ensure they were calibrated and appropriate for the range of operation for each described activity.

b. Observations and Findings

No findings of significance in this area were identified.

c. Conclusions

The NRC inspectors concluded that EnerSys has established a program that adequately controls calibration and use of M&TE in accordance with the regulatory requirements of Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50.

5. Nonconformances and Corrective Actions

a. Inspection Scope

The inspectors reviewed EnerSys's policies and procedures governing the implementation of nonconforming components and corrective actions to verify compliance with Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The inspectors reviewed EnerSys documented conditions adverse to quality such as CARs, CAR Status Reports, Supplied Qualified Alerts, and MRRs. In addition, the inspectors conducted several interviews of EnerSys's management and technical staff about the evaluation of nonconforming components and corrective actions. The inspectors also verified that EnerSys's nonconformance process provides guidance to evaluate nonconformances for reportability under EnerSys's 10 CFR Part 21 program.

b. Observations and Findings

No findings of significance in this area were identified.

c. Conclusions

The inspectors determined that the implementation of EnerSys's programs for control of nonconforming material, parts, or components and corrective action were consistent with the regulatory requirements in Criterion XV, "Nonconforming Materials, Parts, or Components,"

and Criterion XVI, “Corrective Action,” of Appendix B to 10 CFR Part 50. No findings of significance were identified.

6. Internal Audits

a. Inspection Scope

The NRC inspection team reviewed audit policies and procedures to determine if EnerSys’s controls were in compliance with the regulatory requirements of Criterion XVIII, “Audits,” of Appendix B to 10 CFR Part 50. In addition, the inspectors discussed the internal audit program with personnel responsible for the planning and implementation of internal audits and reviewed completed audits and auditor qualifications to verify audit program implementation.

The inspectors reviewed procedure QAP 57.0, “Nuclear Program Management Audit Procedure,” which describes the audit program and development of the audit plan. The inspectors evaluated the most recent audit preformed on EnerSys in October 2013, and verified that items identified in the audit that required corrective action adequately identified the root cause and corrective action plan.

b. Observations and Findings

No findings of significance in this area were identified.

c. Conclusions

The NRC inspection team determined that EnerSys established a program that adequately controls audit activities in accordance with the regulatory requirements of Criterion XVIII, “Audits,” of Appendix B to 10 CFR Part 50. The NRC inspection team determined that EnerSys is effectively implementing its internal audit program.

7. Entrance and Exit Meetings

On Februarys 10, 2014, the NRC inspection team presented the inspection scope during an entrance meeting with EnerSys personnel including Mr. Bill Ross, Quality Assurance Manager of EnerSys. On February 13, 2014, the inspectors presented the inspection results during an exit meeting with Mr. Ross and EnerSys personnel.

ATTACHMENT

1. PERSONS CONTACTED AND NRC STAFF INVOLVED:

Name	Title	Affiliation	Entrance	Exit	Interviewed
Steve Jones	Plant Manager	EnerSys	X	X	X
Bill Ross	Quality Assurance Manager	EnerSys	X	X	X
Johan Language	Engineering and Facilities Manager	EnerSys	X		
Wayne DeBusk	Plant Controller	EnerSys	X		
George Brendahl	Nuclear Product Manager	EnerSys	X		
Cody Staten	Quality Engineer	EnerSys	X		X
Vick Albreeha	Materials Manager	EnerSys	X		
Amy Golfschalk	Receiving Clerk	EnerSys	X		
Jim Pipes	Manufacturing Manager	EnerSys	X		
Jan Reber	Director of Engineering	EnerSys	X	X	X
Scott Phlieger	Quality Manager	EnerSys	X	X	
Linda Frederick	HR Manager	EnerSys	X	X	
Linda Cole	Product Schedule / Purchasing	EnerSys	X	X	
Troy Kriley	Laboratory Technician				X

2. INSPECTION PROCEDURES USED:

IP 43002, “Routine Inspections of Nuclear Vendors”

IP 43004, “Inspection of Commercial-Grade Dedication Programs”

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

3. ITEMS OPENED, CLOSED, AND DISCUSSED:

None

4. DOCUMENTS REVIEWED:

Procedures

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

- QAP 57.0, “Nuclear Program Management Audit Procedure,” Revision June 15, 2013
- QAP 62, “Material Review Report (MRR) Procedure, Revision December 27, 2013
- QAP-73, “Corrective Action Procedure,” Revision November 22, 2013
- QAP-80, “10CFR21 – Procedure for Reporting of Nonconformance Material,” Revision December 27, 2013
- EnerSys Corporate and Hays Listing of MRR Numbers with Description of Discrepancies, dated February 11, 2014
- ESP 4.5.1F, “Engineering Change Order (ECO) procedure,” Revision February 7, 2014
- QAP 500.0, "Quality assurance Requirements for Purchased Material", 09/05/2012
- QAP 31.0, "Nuclear Commercial Grade Survey", 10/31/2011
- Work Instruction (WI) DCR H-25-2013, "Grid Casting" , 02/11/2013
- WI DCR H-112-2013, "Parts Casting", 08/19/2013
- WI DCR H-079-2013, "332 Caster", 06/17/2013
- WI DCR H-035-2012, "Lead Alloy sampling", 03/28/2012
- WI DCR H-003-2014, " Paste Mixing and Pasting Machine", 01/13/2014
- WI DCR H-002-2012, "Paste Mixing - Mixer #3", 01/17/2012
- WI DCR H-080-2012, "Acid Mixing", 07/27/2012
- WI DCR H-100-2012, "Hydroset Oven", 08/29/2012
- WI DCR H-033-2012, "Customer Capacity testing", 03/27/2012
- WI DCR H-212-2008, "Calibration software", 11/22/2008
- WI DCR H-98-009, "Data Loggers", 01/24/1998
- WI DCR H-218-2009, "Calibration of Standards ", 11/24/2008
- WI DCR H-059-2013, "General Receiving inspection", 04/20/2013
- WI DCR H-036-2013, "Inspection Procedure for GN and China Piece Parts", 03/15/2013

Material Review Reports (MRRs) and Corrective Action Reports (CARs)

- MRR Y-016-12, dated March 6, 2012 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-016-12 closed on November 19, 2012)
- MRR Y-017-12, dated June 29, 2012
- MRR Y-031-12, dated December 13, 2012, (Perform CAR evaluation for Part 21 Reportable), date MRR Y-031-12 closed is December 30, 2013 (CAR Y-101-12 closed on October 10, 2013)
- MRR Y-032-12, dated December 13, 2012, (Perform CAR evaluation for Part 21 Reportable), date MRR Y-032-12 closed on December 30, 2013 (CAR Y-102-13 closed on October 10, 2013)
- MRR Y-033-12, dated December 13, 2012 (Perform CAR evaluation for Part 21 Reportable), MRR Y-033-12 closed on Decmeber 30, 2013 (CAR Y-103-13 closed on April 26, 2013)
- MRR Y-001-13, dated January 8, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-001-13)
- MRR Y-024-13, dated November 15, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-088-13)
- MRR Y-031-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-104-13)

- MRR Y-032-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-105-13)
- MRR Y-033-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-106-13)
- MRR Y-035-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-108-13)
- MRR Y-036-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable
- MRR Y-037-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-110-13 responder initiated corrective action on December 30, 2013)
- MRR Y-038-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-111-13)
- MRR Y-039-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-112-13)
- MRR Y-040-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-113-13 responder initiated corrective action on December 30, 2013) (Still open, QA management verification still needed).
- MRR Y-041-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-114-13 responder initiated corrective action on December 13, 2013) (Still open, QA management verification still needed).
- MRR Y-042-13, dated January 18, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-115-13 responder initiated corrective action on December 12, 2013) (Still open, QA management verification still needed).
- MRR Y-050-13, dated November 20, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-124-13)
- MRR Y-051-13, dated November 20, 2013 (Perform CAR evaluation for Part 21 Reportable) (CAR Y-125-13)
- CAR Y-016-12, dated November 19, 2012
- CAR Y-017-12, dated March 26, 2012
- CAR Y-093-12, dated January 18, 2013
- CAR Y-095-12, dated January 18, 2013
- CAR Y-101-12, dated October 10, 2013
- CAR Y-102-12, dated January 5, 2013
- CAR Y-103-12, dated January 15, 2013
- CAR Y-099-13, dated January 15, 2013
- CAR Y-104-13, dated November 18, 2013
- CAR Y-105-13, dated November 18, 2013
- CAR Y-106-13, dated November 18, 2013
- CAR Y-108-13, dated November 18, 2013
- CAR Y-109-13, dated November 18, 2013
- CAR Y-110-13, dated November 18, 2013
- CAR Y-111-13, dated November 18, 2013
- CAR Y-112-13, dated November 18, 2013
- CAR Y-113-13, dated November 18, 2013
- CAR Y-114-13, dated November 18, 2013
- CAR Y-115-13, dated November 18, 2013
- CAR Y-124-13, dated January 29, 2013
- CAR Y-101-12 dated October 10, 2013

Audits

- Audit No. Y-007-13b, “Hays Nuclear Management System Audit,” October 14, 2013

Procurement Documents

- Purchase Order (PO) # 4500005970 - Dominion Virginia Power
- PO #02320208 - Nextera/Point Beach
- Purchase Specification (PS) P-009, "Plastics - Flexible Polyvinyl Chloride Resins", 02/03/2012
- PS-P-009-101, "Polymer Approval and Control requirements", 04/30/2007
- PS-P-009-104, "General Qualifications tests for plastic parts", 04/30/2007
- PS-P-009-01, "Polystyrene, high heat distortion", 04/27/2009
- PS-P-009-018, "Polystyrene, flame retardant high impact", 10/14/2010
- PS-P-009-012, "Soft rubber Parts", 02/03/2003
- PS-P-007-012, "Polystyrene Cement MC-2", 10/20/2009
- PS-P-001-010, "Maintenance Free Alloys", 09/20/2005
- PS-P-007-027, "Plexus MA310 Adhesive", 10/20/2009
- PS-P-006-001, "Ceramic Diffusers - For Flame Arresting Vents", 03/05/2010
- PS-P-008-001, "Sulfuric Acid - Electrolytes Grades", 02/13/2002
- PS-P-009-002, Polypropylene - general Purpose", 11/21/2012

Measuring and Test Equipment Documents

- QAP 63.3, “Control of Measuring and Test Equipment,” Revision February 18, 2011
- QAP 30.01, “Nuclear Safety-Related (NSR) Approved Supplier List,” Revision February 6, 2014
- Thermometer Gage Identification Number (IN) 7810, Gage Calibration Expiration Date: January 31, 2016
- Hydrometer Gage IN 9077, Gage Calibration Expiration Date: February 28, 2014
- Voltmeter IN 1999, Calibration Expiration Date: April 30, 2014
- Ohmnmeter (Current) Meter IN 2501, Calibration Expiration Date: December 29, 2014
- Torque Wrench ID 4503, Calibration Expiration Date: February 28, 2014
- Tester Gage ID 1620, Calibration Expiration Date: July 31, 2014
- Data Logger ID 1620, Calibration Expiration Date: July 31, 2014
- Power Supply ID 2674, Calibration Expiration Date: November 18, 2014
- Customer Capacity Testing for Beaver Valley
    - ID 2501, cell resistance tester
        - Certificate of Calibration (CoC) from TruCal international inc.
            - CoC 299977-5619-299987
    - ID 9071, specific gravity meter
        - WI-022-65-0, “Calibration of Anton Parr DMA-35N Desnity/Specific Gravity Meter,” April 1, 2000
        -
    - ID 1620, tester
- Paste Mixer-temperature, Gauge ID 1225
    - Calibration Date: 1/17/2014

    - Calibration Due: 1/31/2015
- Paste Mixer- Weight, Gauge ID 0486
    - Calibration Date: 10/10/2013
    - Calibration due: 10/31/2014
- Grid Casting (GN)
    - Calibration Procedures for the Grid Casting
        - Temperature Controllers Monitors
            - DCR No. H-208-2008
            - Code No. WI-02215-10
            - Date 11/21/2008
    - Calibration documentation for the Grid Casting Machine (GN)
        - Grid Temperature Panel
        - Gage ID 1601
        - Calibration 12/13/2013
        - Next Due 12/31/2014

Miscellaneous Documents

- 1-5059, "Technical justification for the change of GN production from Richmond, KY to Hays, KS," November 1, 2002
- 5-5059, "Technical discussion of the impact of the plating changes on the hardware used on the seismic qualification of GN stationary batteries racks," June 25, 2007
- 15-5059, "Technical discussion for the blue seal-plug material / design change and the impact on the performance of GN stationary batteries," February 15, 2013
- Wyle Report No. 46647-1, "Seismic Qualification Test Report," January 21, 1998
- Flight Dynamics, Incorporated Report No. A-3-82, "Comparison of test and analysis of two step, "G" size, three bay high seismic battery rack for Exide Power Systems Division," February 10, 1982
- Wyle Report No 45001-1, "Nuclear Environmental Qualification Test Report," dated November 30, 1981, Revision A
- Engineering Support Request (ESR) 064-11, "QAP 70.00 Assessment Revision," November 1, 2011
- Form 5-1037A, "Material Review Report," Revision December 27, 2013
- Form 5-249, "Corrective Action Request," Revision November 28, 2009
- GN Positive Grid, Drawing Number: 087030, dated 1979
- Cell Assembly GN Rv. B (Poly Carbonate Jar), Drawing Number: 092295, dated 1984
- Seal Cover Double Cell, Double Pillar, Drawing Number: 094055/CERT Rev E, dated 1985
- Jar Manufacture- G Jar two Chambers, Drawing Number: 091232 Rev. L, dated 09/26/1983
- DWG No. 692020 Rev. B, "Separator Assembly (New GN Cell)," dated July 11, 1997
- ECO No. 401135, dated August 22, 2001
- ECO No. 3000062, dated May 10, 2005
- ECO No. 301275. dated November 25, 2002
- ECO No, 301185, dated November 22, 2002
- ECO No. 3000527, dated November 10, 2008

- ECO No. 3000664, dated June 2, 2010
- ECO No. 3000751, dated November 23, 2010
- 812840/ CERT Rev. K, “Bottom Seal Ring, ‘G’ Cells,” dated August 27, 1996
- Hays Ball Mill Oxide Manufacture- PPS-1H, Rev. 12/23/13.
- Flat Plate Manufacturing - PPS-3H, Hays Plant Rev. 5/6/2008, Section 3, Section 4 Mixing Procedure
- Process Acid PPS-22, Revision 3/15/06
- Manufactur Specification - Manufacture of stationary "G" Cells [06/03/2004]
- Process/Product Specification (PPS) -2, "Grid Casting and Grid assembly":
- Section 3 - Casting [02/20/2009]
- Section 6 - Quality Requirements Antimony, Pure Lead and Calcium Flat Plate Grid [05/11/2001]
- PPS-311, "Flat Plate Manufacture - Hays Plant" :
- Section 2 - Paste Formulas [05/06/2008]
- Section 4 - Mixing Procedure [04/29/2005]
- Section 8 - Plate Processing [02/16/2004]
- Drawing 612711, "G-Jar, large, single, chamber", revision L
- Drawing 092661/CERT, "Gasket, Post Seal", revision F
- Drawing 083430/CERT, "Assembly, Plug and Gasket", revision F
- Engineering Change Order (ECO) # 3001026 - Release new flame retardant polycarbonate resin covers [12/20/2012]
- ECO # 3001028 - Release new flame retardant polycarbonate resin jars [12/27/2012]
- ECO No. 3000759, dated 7/31/13

5. ACRONYMS USED:

ADAMS	Agencywide Documents Access and Management System
CAR	corrective action report
CGD	commercial grade dedication
CFR	*Code of Federal Regulations*
DCIP	Division of Construction Inspection and Operational Programs
ECO	Engineering Change Order
EVIB	Electrical Vendor Inspection Branch
IP	inspection procedure
M&TE	measuring and test equipment
MRR	material review report
NON	Notice of Nonconformance
NRC	(U.S.) Nuclear Regulatory Commission
NRO	Office of New Reactors
NSR	nuclear safety related
PO	purchase order
QA	quality assurance
QAP	quality assurance procedure
U.S.	United States (of America)