July 9, 2015

Mr. Bryan L. Tauzer, Quality Assurance Manager
ABB, Incorporated
4300 Coral Ridge Dr.
Coral Springs, FL 33065

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION OF ABB, INC., REPORT NO. 99901423/2015-201 AND NOTICE OF NONCONFORMANCE

Dear Mr. Tauzer:

From May 26-29, 2015, U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the ABB, Inc., Distribution Protection and Control, (ABB) facility in Coral Springs, Florida. The purpose of this limited-scope reactive inspection was to assess ABB's compliance with the provisions of selected portions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance," and selected portions of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities".

This technically focused inspection evaluated ABB's implementation of quality activities associated with recent ABB Part 21 notifications since June 2013, and ABB's control of purchased material. The enclosed report presents the results of this inspection. This NRC inspection report does not constitute NRC endorsement of ABB's overall quality assurance (QA) or Part 21 programs.

During this inspection, NRC inspectors found that the implementation of your QA program failed to meet certain NRC requirements imposed on you by your customers. Specifically, the NRC inspectors determined that ABB was not fully implementing its QA program in the areas of procedures, control of purchased material, and inspection. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter.

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

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its 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 (ADAMS), 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).

Sincerely,

/RA/ (AValentin for)

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

Docket No. 99901423

Enclosures:
1. Notice of Nonconformance
2. Inspection Report 99901423/2015-201 and Attachment

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).

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bryan.l.tauzer@us.abb.com

ADAMS Accession No: ML15166A410 *Concurred via e-mail NRO-002

OFC	NRO/DCIP/EVIB	NRO/DCIP/EVIB	NRO/DCIP/EVIB
NAME	PNatividad	NSavwoir	JJacobson
DATE	06/22/15	06/30/15	06/26/15
OFC	NRO/DCIP	NRO/DCIP/EVIB	
NAME	TFrye*	RRasmussen (AValentin for)	
DATE	06/26/15	07/09/15	

OFFICIAL RECORD COPY

NOTICE OF NONCONFORMANCE

ABB, Inc.
4300 Coral Ridge Dr.
Coral Springs, FL 33065

Docket No. 99901423
Report No. 2015-201

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted of ABB, Inc., at their facility in Coral Springs, Florida from May 26-29, 2015, certain activities were not conducted in accordance with NRC requirements that were contractually imposed upon ABB by its customers or by NRC licensees.

A. Criterion V, "Instructions, Procedures, and Drawings," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," 10 CFR Part 50, Domestic Licensing of Production and Utilization Facilities," states, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, and drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

   Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," 10 CFR Part 50, Domestic Licensing of Production and Utilization Facilities," states, in part, that "Measures shall be established to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents."

   Criterion X, "Inspection," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," 10 CFR Part 50, Domestic Licensing of Production and Utilization Facilities," states, in part, that "A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. Examinations, measurements, or tests of material or products processed shall be performed for each work operation where necessary to assure quality."

   Contrary to the above, as of May 29, 2015, ABB failed to ensure that activities affecting quality were prescribed by instructions or procedures appropriate to the circumstances and were sufficient to ensure that purchased material conformed to procurement documents. Specifically, ABB's governing procedures did not require the documentation of any receipt inspection data. Also, the tools being utilized by ABB to perform receipt inspection of pins utilized in the mechanisms for safety-related relays were not appropriate to ensure that the material conformed to the procurement documents. The tools did not possess the sufficient accuracy or resolution to ensure that the material met its purchase requirements. In addition, the visual examinations being performed of the pins were not sufficient to verify conformance with the applicable drawings.

   This issue has been identified as Nonconformance 99901423/2015-201-01.

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, Electrical Vendor Inspection Branch, Division of Construction Inspection and Operational Programs, Office of New Reactors, within 30 days of the date of the letter transmitting this Notice of Nonconformance. This reply should be clearly marked as a "Reply to a Notice of Nonconformance" and should include for each noncompliance: (1) the reason for the noncompliance, or if contested, the basis for disputing the noncompliance; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid noncompliances; and (4) the date when your corrective action will be completed. Where good cause is shown, consideration will be given to extending the response time.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information.

If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

Dated this 9th day of July 2015.

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

Vendor Docket No.:	99901423
Inspection Report No.:	99901423/2015-201
Vendor:	ABB, Incorporated 4300 Coral Ridge Dr. Coral Springs, FL 33065
Vendor Contact:	Mr. Bryan L. Tauzer, Quality Assurance Manager (954) 825-0663 bryan.l.tauzer@us.abb.com
Nuclear Industry Activity:	ABB, Inc. (ABB) supplies protective relays, switches, substation control equipment, and relay systems to operating nuclear plants.
Inspection Dates:	May 26 - 29, 2015
NRC Inspectors:	Jeffrey Jacobson NRO/DCIP/EVIB - Team Leader Nicholas Savwoir NRO/DCIP/EVIB Phil Natividad NRO/DCIP/EVIB
Approved:	Richard A. Rasmussen, Chief Electrical Vendor Inspection Branch Division of Construction Inspection and Operational Programs Office of New Reactors

EXECUTIVE SUMMARY

ABB, Inc., Coral Springs
99901423/2015-201

The NRC staff conducted this limited scope vendor inspection at the ABB, Incorporated, Coral Springs (hereafter referred to as ABB) 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", and 10 CFR Part 21, "Reporting of Defects and Noncompliance". The NRC inspection team conducted this inspection from May 26 through 29, 2015.

This limited scope reactive inspection focused on ABB's recent Part 21 notifications since June 2013. Specifically, there were four Part 21s, listed by NRC Notification Number:

- EN: 2014-90, "Part 21 Notification of Potential Defect Regarding KF Relay ZPA Rating" dated December 17, 2014
- EN: 2014-07, "Part 21 Notification of Instruction Leaflet for CVX & CVX-1 Relays May Be Deficient" dated February 10, 2014
- EN: 2013-51, "Part 21 Notification of ABB Solid State Circuit Shield and Power Shield Relays Shipped With Incorrect Certificates of Conformance" dated September 23, 2013
- EN: 2013-22, "Part 21 Notification of Issue Concerning the Zero Point Acceleration (ZPA) rating for 3 Phase Relay Type SSC-T" dated April 1, 2013

The inspection team also reviewed ABB's control of purchased material used in the manufacture of safety-related relays. The following regulations served as the bases for this NRC inspection:

- Appendix B to 10 CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"
- Part 21 of 10 CFR, "Reporting of Defects and Noncompliance"

The inspectors used Inspection Procedure (IP) 43003, "Reactive Inspections of Nuclear Vendors"; supplemented by IP 36100, "Inspection of 10 CFR Part 21 and Programs for Reporting Defects and Noncompliance."

The results of the inspection are summarized below.

Review of Part 21 Reports

The inspection team reviewed ABB's corrective actions associated with four recent 10 CFR Part 21 reports to the NRC in 2013 and 2014, associated with their supply of safety-related relays to the U.S. nuclear industry. For each of these notifications the inspectors reviewed relevant records, purchase orders (POs), test reports, corrective action requests, and engineering evaluations. The inspectors also interviewed associated ABB personnel. No findings of significance related to ABB's Part 21 activities were identified.

Review of Purchased Material

The inspection team reviewed procedures and records associated with the purchase by ABB of parts and materials used in the construction of their line of safety-related relays. The inspectors determined that in one instance, ABB had failed to ensure that activities affecting quality were prescribed by instructions or procedures appropriate to the circumstances and were sufficient to ensure that purchased material conformed to procurement documents. Specifically, ABB's governing procedures did not require the documentation of any receipt inspection data. In addition, the tools being utilized by ABB to perform receipt inspection of parts used in the mechanisms for safety-related relays were not appropriate to ensure that the material conformed to the procurement documents. Also, the visual examinations being performed of the parts were not sufficient to verify conformance with applicable drawings. The inspectors determined that these discrepancies, associated with the documentation requirements and implementation of inspection requirements, did not meet Criterion V, "Instructions, Procedures, and Drawings," Criterion VII, "Control of Purchased Material, Equipment, and Services," and Criterion X, "Inspection" of Appendix B to 10 CFR Part 50. This issue has been identified as Nonconformance 99901423/2015-201-01.

REPORT DETAILS

Review of Part 21 Reports

Inspection Scope:

The inspection team reviewed ABB's corrective actions associated with four recent 10 CFR Part 21 reports to the NRC, pertaining to their supply of safety-related relays to the U.S. nuclear industry. The inspectors focused on ensuring that the problems that resulted in the Part 21 reports were appropriately captured in the corrective action program, that the extent of condition of the problems was well understood, and that appropriate corrective actions were taken, including notifications to the NRC and to ABB customers as required. The four Part 21 reports reviewed were:

- EN: 2014-90, "Part 21 Notification of Potential Defect Regarding KF Relay ZPA Rating" dated December 17, 2014
- EN: 2014-07, "Part 21 Notification of Instruction Leaflet for CVX & CVX-1 Relays May Be Deficient" dated February 10, 2014
- EN: 2013-51, "Part 21 Notification of ABB Solid State Circuit Shield and Power Shield Relays Shipped With Incorrect Certificates of Conformance" dated September 23, 2013
- EN: 2013-22, "Part 21 Notification of Issue Concerning the Zero Point Acceleration (ZPA) rating for 3 Phase Relay Type SSC-T" dated April 1, 2013

For each of these notifications the inspectors reviewed relevant records, POs, test reports, corrective action requests (CARs), and engineering evaluations. The inspectors also interviewed associated ABB personnel.

With respect to EN: 2014-90, the inspectors reviewed ABB's corrective actions associated with the basis for the seismic qualification of their KF relay line. In the Part 21 report, it was determined that certain models of the KF relays were only qualified for a ZPA rating of 1.7 g instead of the previously specified rating of 5.3 g. The error resulted from the inappropriate grouping of all KF relays into a common group of relays of which only one style was actually tested. The tested style of the KF relay contained an indicating contact switch that minimized the impact of contact chatter during testing where as other styles of the KF relay do not have this switch, and thus their operation could be impacted by any contact chatter that might be caused by a seismic event.

The inspectors reviewed CAR OGUN-9Q3R8K, dated October 20, 2014, which detailed ABB's corrective actions associated with this issue. Included in the CAR were corrective actions to perform an extent of condition review. The inspectors assessed the thoroughness of ABB's extent of condition review documented in the ABB report, "Evaluation by Similarity Extent of Condition" dated January 16, 2015. The inspectors also reviewed specific corrective actions that were taken to improve the seismic performance for the specific styles of the KF relay that were the subject of the Part 21 evaluation.

With respect to EN: 2014-07, the inspectors reviewed ABB's corrective actions associated with a deficiency in their CVX & CVX-1 Relay Instruction Leaflet 41-682.11. In the Part 21 report, it was determined that the Instruction Leaflet 41-682.11 (effective September 2002) for the subject relays was deficient with regards to the external diagram connection. With the relay connected per the typical connections shown in the instruction leaflet, and the relay having verified a synchronous condition for a period of time ranging from several minutes to hours, the main element contact identified as "CVX-1" may become stuck in the closed position. ABB's records indicated that 15 relays were supplied to Exelon (Clinton Nuclear Station) and 4 relays were supplied to Duke Energy (Oconee Nuclear Station).

The inspectors reviewed CAR GGOB-9EGH8B, dated December 12, 2013, and compared it against the instructions contained in section 8.5 of ABB's Quality System Manual. Section 8.5 of the quality manual states, "in the case of a significant condition adverse to quality, the cause of the condition is determined and corrective action taken to preclude recurrence." Included in the evaluation of the CAR was an action to perform an engineering change (ECO), "CS Eng-3110." The inspectors verified that ABB had updated inspection leaflet to address the interposing contact in the circuit which was added to prevent the relay from becoming stuck in the closed position. In addition, the NRC inspectors reviewed other CARs to verify that ABB had taken corrective actions to resolve the identified conditions in a timely matter.

With respect to EN: 2013-51, the inspectors reviewed samples of ABB purchasing records and certificates of conformance. The Part 21 report stated that the radiation tolerance value listed on issued ABB certificates of conformance that had been sent to certain customers was incorrect (100,000 vs 1,000 rads). ABB's evaluation of the issue stated that the error had resulted from a previous format change to the certificates of conformance. The inspectors discussed the PO issuance process with ABB personnel. The inspectors reviewed samples of issued PO's and certificates of conformance to verify that design requirements were properly transferred from incoming technical procurement requirements. The inspectors reviewed samples of newly issued POs and certificates of conformance, including internal ABB PO's to ABB Florence, PO's for solid state relays, and PO's for electrical mechanical relays procured as basic components or commercially as part of Commercial Grade Dedication.

With respect to EN: 2013-22, the NRC inspectors reviewed the April 1, 2013, Part 21 notification regarding incorrect ZPA rating listed for the 3-phase style of electromechanical (EM) relay within the SSV-T/SSC-T group or "family" of relays. ABB had incorrectly provided the ZPA rating for the single-phase style of SSC-T relay to a licensee customer, instead of the ZPA for the 3-phase style from the same SSC-T family. After the completion of updated seismic testing in 2012 specifically for the SSV-T 3-phase style, the ZPA rating was lowered for the 3-phase style from 5.6 g to 4.79 g. ABB updated the new ZPA value for SSV-T in its internal database, but had not updated the ZPA value for SSC-T in the database. Subsequently, a 3-phase SSC-T relay and its certificate of conformance that was shipped to a licensee customer in response to a 2013 PO, listed the old ZPA value.

The inspectors' samplings of POs, and associated certificates of conformance, were from relays manufactured at the ABB-Coral Springs facility, selected since the time of the most recent NRC inspection in 2013, for various families of relays including specific examples of the SSC-T family and the KF family that were the subject of ABB's 2013 and 2014 Part 21 notifications. For EM relays, the certificates of conformance listed ZPA, qualified lifetime given specified

environmental restraints, critical characteristics-mechanical (for EM), critical characteristics-electrical, and additionally included engineering test/conformance test report sheets and Class 1E testing data sheets.

Observations and Findings:

Regarding EN: 2014-90, the inspectors verified that ABB performed an appropriate evaluation of the issue. ABB properly assessed the extent of condition by performing a review of all safety-related electromechanical relay families, as necessary to ensure that in all cases the similarity basis that was established for the relay groupings was appropriate. The inspectors determined that ABB's extent of condition review appeared thorough and no other cases of improperly grouped relays were identified. The inspectors determined that ABB's CAR also called for the generation of new or the revision of existing qualification procedures to ensure that appropriate guidance is provided for situations where qualification by similarity is being utilized. This corrective action had been assigned but had not been completed as of the date of this inspection. The inspectors identified that in order to improve the seismic performance of the specific relays that were the subject of the Part 21 notification, ABB implemented Engineering Change Order ECO CS Eng-3449, dated January 7, 2015, to add a contactor switch to the circuit, similar to what exists in the other KF relay styles and similar to the relays that were actually subjected to seismic testing.

Regarding EN: 2014-07, the inspectors verified that ABB performed an appropriate evaluation of the issue. Through the Part 21 notification, ABB properly assessed the extent of condition by identifying all shipments of the CVX & CVX-1 Relay with Instruction Leaflet 41-682.11. The inspectors determined that ABB's CAR also generated a new Instruction Leaflet "41-682A." The inspectors verified that the revision to the inspection leaflet reflected the engineering change CS Eng-3110. The inspectors observed that schematic diagram, Figure 10A, in Instruction Leaflet "41-682A" included the Control Circuit for the Continuously Energized CVX Contacts with the External Permissive Momentary Contact.

Regarding EN: 2013-51, the inspectors verified that ABB's corrective actions were appropriate to resolve the issue. The inspectors did note however a minor discrepancy on one subsequent certificate of conformance associated with Constellation Energy PO number RNT2239, PO# 7738371. In this PO, the component's part number was listed as 411T5175-HF-L-F-1E whereas the ordered part was 411T5175-HF-L-1E. In discussions with ABB's Quality Assurance manager, it was determined that the additional identifier was related to a specific cover style for the relays and would not affect the fit form or function of the Relay. ABB issued CAR-BLTR-9WX974 dated May 28, 2015, to revise the certificate of conformance. This was considered a minor issue by the inspection team.

Regarding EN: 2013-22, ABB's corrective action process appropriately: identified the extent of condition as the one relay sold with the incorrect ZPA documentation, performed the Part 21 notification to NRC, and updated their internal Relay Selection Database for the 3-phase SSC-T style with the updated ZPA value. The inspectors determined that although there have been subsequent POs for related single-phase SSC-T relays since the April 1, 2013, Part 21, there have been no additional orders for the subject 3-phase SSC-T relays from April 2013 up to the time of this inspection. ABB has an ongoing effort from the 2014 Part 21 corrective action on KF relays, as described above, to further update the technical report "Evaluation by Similarity

Extent of Condition" to verify adequate qualification by similarity for each Class 1E relay family. Additionally the inspectors reviewed technical Qualification Report documentation for SSV-T and KF family relays which provided the bases for certifications, including the test reports and updated tests for the referenced seismic testing, and found no additional significant issues. The inspectors additionally verified that Part 21 postings were in conspicuous locations within the ABB-Coral Springs facility in accordance with 10 CFR 21.6, "Posting Requirements."

No findings of significance were identified.

Conclusion:

The inspectors concluded that ABB had taken appropriate corrective actions for the conditions described in the four Part 21 notifications, consistent with 10 CFR Part 21 and 10 CFR Part 50, Appendix B. No findings of significance were identified.

Review of Purchased Material

Inspection Scope:

The inspection team reviewed procedures and records associated with the purchase by ABB of parts and materials used in the construction of their line of safety-related relays. Specifically, the inspectors reviewed whether appropriate specifications for the purchased parts had been generated, whether appropriate processes had been implemented to qualify suppliers, and whether appropriate receipt inspection requirements had been identified and implemented.

The inspectors reviewed Standard Operating Procedure 10.910.002, "Incoming Inspection", Revision 31, dated October 28, 2014, and Work Instruction WI-0018, "Inspection Test Plan and Records", Revision 6, dated December 3, 2012.

The inspectors reviewed ABB PO 4500863433, dated November 13, 2012, to Welton Johnson Engineering company for a large quantity (12,100) of pins, which is a critical part that is used in the spring mechanism for certain safety-related relays.

Findings and Observations:

As with almost all materials used in the manufacture of the relays, ABB purchases piece parts as commercial grade items. The items are purchased from approved commercial suppliers and are subject to receipt inspection and testing requirements as delineated by ABB's 10 CFR Part 50 Appendix B program. The inspectors determined that in general, this is an acceptable method of controlling purchased materials.

As part of its receipt inspection process, ABB selected a sample of pins from PO 4500863433 for inspection and testing. The sample size (32 pins), was selected utilizing EPRI NP 7218 sampling plans. The testing requirements were contained in Control Number TR-2009 #76553, which required verification of the length, outer diameter, surface polish, and flatness. Surface polish requirements were specified in ABB Process Specification 81209GG, dated August 1980.

The inspectors determined that the receipt inspection testing results for the subject PO were not appropriately documented. Other than one electronic data entry indicating that the entire tested lot passed inspection, there was no specific data recorded with respect to any of the measurements performed. The inspectors also determined that the governing ABB procedures, Standard Operating Procedure 10.910.002 and Work Instruction WI-0018, were deficient in that they did not specify that data measurements or inspection results are to be recorded.

Upon interviewing the ABB personnel responsible for performing the receipt inspection of these pins, it was determined that the caliper being utilized to verify the acceptable diameter did not have the necessary resolution or accuracy sufficient to verify the dimensions were within the specified tolerance range. The ABB specification required that the pin be between .0225 inches and .0228 inches OD but the caliper being utilized to verify the diameter could only be read to three decimal places. When asked about the accuracy of the caliper, ABB stated that it was unknown. The inspector also determined that the ABB specification called for a visual inspection of the polish surface under 20 times magnification but instead, the inspection had been performed using a 6 times magnification device.

The inspectors determined that these discrepancies, associated with the documentation requirements and implementation of inspection requirements, did not meet Criterion V, "Instructions, Procedures, and Drawings," Criterion VII, "Control of Purchased Material, Equipment, and Services," and Criterion X, "Inspection" of Appendix B to 10 CFR Part 50. This issue has been identified as Nonconformance 99901423/2015-201-01.

Conclusions:

The inspectors determined that ABB failed to ensure that activities affecting quality were prescribed by instructions or procedures appropriate to the circumstances and sufficient to ensure that purchased material conformed to procurement documents. Specifically, ABB's governing procedures did not require the documentation of any receipt inspection data. Also, the tools being utilized by ABB to perform receipt inspection of pins utilized in the mechanisms for safety-related relays were not appropriate to ensure that the material conformed to the procurement documents. This issue has been identified as Nonconformance 99901423/2015-201-01.

Entrance and Exit Meetings:

On May 26, 2015, the inspectors presented the inspection scope during an entrance meeting with Mr. Dennis Batovsky, Managing Director, Distribution Automation, of ABB, and other ABB personnel. On May 29, 2015, the inspectors presented inspection results during an exit meeting with Mr. Batovsky and other ABB personnel.

ATTACHMENT

Persons Contacted:

Name	Title	Entrance	Exit	Interviewed
Bryan Tauzer	Quality Manager	X	X	X
Dennis Batovsky	Managing Director	X	X	
Rene Henriquez	Lead Quality Engineer	X	X	X
Gary Goldfarb	Senior Analysis Technician/Specialist	X	X	X
Osairis Guzman	Project/IE Engineer	X	X	X
Rita Novoseletsky	Engineer			X
George Butz	Receipt Inspection			X
Tom Hansen	Engineering Manager		X	
Brian Jordan	Quality Engineer		X	
Terence Malloy	Senior Quality Nuclear Program Manager		X	X
Jeff Jacobson	NRC	X	X	
Nicholas Savwoir	NRC	X	X	
Phil Natividad	NRC	X	X	

Documents reviewed:

Operating Instructions for Assembly of Cylinder Unit Cards, Revision 14, dated June 24, 2014

Record of Inspection for Part Number 876022, dated January 15, 2013

Work Instruction WI-0018, “Inspection Test Plans and Records” Revision 6, dated December 3, 2012

Standard Operating Procedure 10-910.002, “Incoming Inspection” Revision 31, dated October 28, 2014

Process Specification 81290GG thru GN, “Polishes and Burnishes” Revision E, dated August 1980

Drawing Number 880A088, “Pins” Revision 1.1 dated July 2, 1992

Drawing 52-D-6332, “Springs” Revision 27, dated December 18, 1983

Certificate of Calibration from Florida Standards Laboratory for 6” Dial Caliper, Serial Number T-119

Drawing 23D9191, “Upper Bearing Screw Assembly” Revision 17, dated January 27, 2012

Work Instruction WI-0080, “Corrective and Preventive Action Requests, dated May 20, 2015

Standard Operating Procedure 10-914.001, “Corrective and Preventative Actions” Revision 18, dated January 22, 2015

Technical Report 800407, “Evaluation by Similarity Extent of Conditions” Revision 1, dated January 16, 2015

Drawing 95A1122, “Relay Type KF Internal Diagram,” Revision 1, dated February 26, 2015

Form Control Document L10-910.107, “Relay Component Inspection Criteria” Revision 10, dated November 21, 2011

L10-910.207, “Mechanical Inspection Criteria for Class 1E Products” Revision 14, dated September 17, 2013

Qualification Report for Class 1E Apparatus, Qualification Report Number CTR-KF, Revision 3, August 25, 2014

Qualification Report for Class 1E Apparatus, Qualification Report Number CTR-SSVT, Revision 4, April 30, 2014

Quality System Manual ABB - Coral Springs, Revision 17, February 4, 2014

Standard Operating Procedure 10-908.004, “Implementation of 10CFR21,” Revision 16, November 21, 2003

Standard Operating Procedure 10-914.001, “Corrective and Preventive Actions”, Revision 18, January 22, 2015

Work Instruction WI-0080, “Corrective and Preventive Action Requests”, Revision 1, May 20, 2015

Form Control Document F10-908.102, “Class 1E Data File Checklist,” Revision 13, August 14, 2014

Form Control Document L10-910.107, “Relay Component Inspection Criteria,” Revision 10, November 21, 2011

Form Control Document L10-910.207, "Mechanical Inspection Criteria for Class 1E Products,” Revision 14, September 19, 2013

Identification of Class 1E Critical Characteristics F20-904.C20, “Type KF Relay Basic Component Test Plan,” Revision 6, August 31, 2010

M-SPEC 20118 SUB 18, “KF RELAY (STANDARD & CLASS 1E)”, Revision 18, January 15, 2015

Engineering Change Order CS Eng-3440, “KF,” January 7, 2015

Dwg No. 95A1122, “Relay Type KF Internal Diagram,” Revision 1, February 26, 2015

Dwg No. 3519A28, “Relay – Type KF Under Frequency 50 & 60 Hertz S.P.D.T. Contacts in FT21 Case”

Engineering Change Order CS Eng-3110 “Instruction Leaflet” October 18, 2013

Dwg No. 95A117, “Control Circuit for the Continuously Energized CVX Contacts with External Permissive Momentary Contact”

Instruction Leaflet 41-682A July 2014

PO 7738371 ABB# RNT2239

PO ABB# RAC1000, Rev. 4, May 29, 2014

PO 4500634396 ABB# VEP9813, March 17, 2014

PO 4500634789 ABB# VEP9834, March 19, 2014

PO 4501297025 ABB# AA1297025, March 28, 2014

PO 00183278 ABB# RA310717, March 2014

PO SNG10028498 ABB# RAC0948 April 10, 2015

PO 00600936 ABB#PPL2743 June 27, 2014

PO 00517710 ABB# ENW0665 February 2014

PO 10414714 ABB# RA97600 May 2014

PO 7738371 ABB# RNT2239 July 2014

PO 4501248731 ABB# AA1104931 July 17, 2013

PO 4501248751 ABB# AA1248751 January 20, 2014

PO 4501488041 ABB# AA1488041 January 19, 2015

Corrective Action Request OGUN-9Q3R8K, created October 20, 2014

Corrective Action Request GGOB-9EGH8B created December 12, 2013 (CVX & CVX-1)

Corrective Action Request GGOB-965KZ4, created March 25, 2013 (59N)

Corrective Action Request GCIN-9CDQKV, created October 11, 2013 (27N)

Corrective Action Request RHEZ-99V59X, created July 23, 2013 (K-Line)

Corrective Action Request BLTR-9WX974, created May 28, 2015 (PO RNT2239)

Corrective Action Request GGOB-95BPPJ, created February 27, 2013

Corrective Action Request RHEZ-9WX93D, created May 28, 2015 (Part 876022)