



SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. CERTIFICATE/QUALITY ASSURANCE PROGRAM (QAP) HOLDER: NAC International 3930 East Jones Bridge Road Norcross, Georgia 30092		2. NRC/REGIONAL OFFICE Headquarters U. S. Nuclear Regulatory Commission Mail Stop 3WFN 14C-28 Washington, DC 20555-0001	
REPORT NUMBER(S) 71-00018/2018-201			
3. CERTIFICATE/QAP DOCKET NUMBER(S) 071-00018	4. INSPECTION LOCATION Norcross, GA	5. DATE(S) OF INSPECTION February 13-14, 2018	

CERTIFICATE/QUALITY ASSURANCE PROGRAM HOLDER:

The inspection was an examination of the activities conducted under your QAP as they relate to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your QAP Approval and/or Certificate(s) of Compliance. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- ☒ 1. Based on the inspection findings, no violations were identified.
- ☐ 2. Previous violation(s) closed
- ☐ 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, to exercise discretion, were satisfied.

Non-cited violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):

Based on the results of this inspection, the NRC identified one unresolved item regarding design control measures for the selection and review for suitability of application of an American Society of Mechanical Engineers (ASME) Code Section III, Subsection NG as it relates to a new basket design for NRX fuel assemblies. Specifically, objective evidence could not be furnished that an adequate design calculation was performed relating to the lifting operations and the weld quality factors for bottom plates associated with a caddy assembly operation and inspection activities, respectively.




- ☐ 4. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.
(Violations and Corrective Actions)

Statement of Corrective Actions

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE	DATE
CERTIFICATE/QAP REPRESENTATIVE	Brad Green, Vice President, Quality Assurance		3/30/18
NRC INSPECTOR	Earl C. Love		3/30/18
BRANCH CHIEF	Meraj Rahimi		3/30/18

INSPECTOR NOTES COVER SHEET

Licensee/Certificate Holder (name and address)	NAC International (NAC) 3930 East Jones Bridge Road Norcross, Georgia 30092
Licensee/Certificate Holder	Brad Green, Vice President, Quality (678) 328-1233
Docket No.	071-00018
Inspection Report No.	7100018/2018-201
Inspection Dates(s)	February 13-14, 2018
Inspection Location(s)	Norcross, GA
Inspectors	Earl Love, Team Leader, Senior Transportation and Storage Safety Inspector Marlone Davis, Senior Transportation and Storage Safety Inspector Carla Roque-Cruz, Transportation and Storage Safety Inspector
Summary of Findings and Actions	<p>On February 13-14, 2018, the U.S. Nuclear Regulatory Commission (NRC) performed an inspection at NAC's corporate headquarters located in Norcross, GA. The purpose of the inspection was to assess NAC's compliance with the provisions of their approved NRC Quality Assurance program for radioactive material packages, in accordance with the requirements of Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) Parts 21 and 71 and their applicable Certificates of Compliance (CoC's). Specifically, the team of NRC inspectors wanted to verify the adequacy of activities related to design, modification, fabrication, assembly, testing, procurement, and maintenance of the transportation packaging CoC's for the Legal Weight Truck (NAC-LWT) and STC cask systems.</p> <p>Based on the results of this inspection, the NRC identified one unresolved item regarding design control measures for the selection and review for suitability of application of an American Society of Mechanical Engineers (ASME) Code Section III, Subsection NG as it relates to a new basket design for NRX fuel assemblies. Specifically, objective evidence could not be furnished that an adequate design calculation was performed relating to the lifting operations and the weld quality factors for bottom plates associated with a caddy assembly operation and inspection activities, respectively. The item is described within the inspector notes below and remains under NRC review.</p>
Lead Inspector Signature/Date	 03/30/2018 Earl Love
Inspector Notes Approval Section Chief Signature/Date	 3/30/18 Meraj Rahimi / 

INSPECTOR NOTES: INSPECTION RESULTS OF APPLICABLE PORTIONS OF 02.02 THROUGH 02.10 OF IP86001 WERE PERFORMED DURING THE INSPECTION WITH RESULTS DOCUMENTED BELOW:

02.02 Verify that the CoC holder's activities related to transportation packagings are being conducted in accordance with the CoC, as well as the NRC-approved QA Program, and that implementing procedures are in place and effective.

The team reviewed NAC's Quality Assurance Manual (QAM), Revision 8, dated April 03, 2014 and their implementing Quality Assurance Procedures (QAPs). The team assessed the adequacy and effectiveness of NAC's implementation of the QAM. The team conducted reviews of NAC's policies and procedures, and discussed portions of the reviewed documents with selected NAC personnel to determine whether activities subject to 10 CFR Part 71 were adequately controlled and implemented under NAC's NRC-approved QA program. The team concluded that NAC conducts activities related to transportation packaging in accordance with their NRC approved QA program and that programs and procedures are in place and are effective to conduct activities related to packaging fabrication and testing activities.

02.03 Verify that provisions are in place for reporting defects which could cause a substantial safety hazard, as required by 10 CFR Part 21.

The team reviewed NAC's compliance to posting and reporting requirements of 10 CFR Part 21. NAC quality procedure (QP) No. 16-2, Revision 9, "Potential Significant Deficiencies and Defects and Regulatory Reporting," describes the method for the identification, evaluation and reporting of conditions which may be judged reportable in accordance with the requirements. Additionally, the procedure describes the reporting of issues in which there is a significant reduction in the effectiveness of any NRC-approved Type B or Type AF packaging during use; Details of any defects with safety significance in any NRC-approved Type B or fissile material packaging, after first use; and Instances in which the conditions of approval in the CoC were not observed in making a shipment in accordance with the requirements of 10 CFR 71.95, "Reporting." Overall, no concerns were identified with regard to NAC's process for reporting defects which could cause a substantial safety hazard, as required by 10 CFR Part 21.

10 CFR 71.95, Report Closure

NAC-LWT 71.95 (Docket number 71-9225) – Five of six NRU/NRX lid assemblies had been fabricated and used while not being constructed in accordance with the NAC-LWT CoC. On October 12, 2016, NAC discovered that six NRU/NRX basket lids had been fabricated in accordance with a drawing change that had not been submitted to and approved by the NRC. This drawing change had been completed internally but was inadvertently excluded from subsequent NRU/NRX application submittal packages to the NRC. This drawing change was for the lid collar which was originally listed in the bill of materials to be procured to material form specification ASME SA312 (a pipe specification) to now be procured to material form specification ASME SA249 (a tube specification). Condition No. 5(a)(3)(ii), "Drawings," lists drawing no. LWT 315-40-172 which contained this error. Therefore, the conditions of the certificate of compliance were not met. On October 13, 2016, NAC informed the NRC of the situation and on October 14, 2016, submitted an amendment request which was reviewed and approved by staff the same day (ML16291A118).

The team reviewed NAC Self-Identification Report (SIR) 16-011, dated October 14, 2016 and Finding Report (FR) 16-015 dated October 14, 2016. NAC identified 5 corrective actions and

completed them by December 12, 2016. The team verified that actions had been completed. Actions included, obtaining approval of design change by NRC, notifying affected users, revising the licensing submittal summary, revising applicable procedures, training staff on existing and revised applicable requirements. The team identified no concerns with NAC's proposed and completed corrective actions.

NAC-LWT 71.95 – Regarding the failure of the bottom weld of the caddy used for transporting the NRU/NRX fuel. On November 2, 2015, the Canadian Nuclear Laboratories (CNL) informed NAC of an issue with a caddy assembly in the CNL rod bay pool during the loading operation. The CNL loaded an NRX fuel element into the NAC-LWT caddy assembly and a weld joint failed when the NRX fuel element contacted the bottom of the caddy assembly. This resulted in both the bottom of the plate of the caddy assembly and the NRX fuel element falling to the fuel pool floor.

Related to this 71.95 report, the team reviewed NAC's Part 71.95 Report; SIR 15-011, dated December 14, 2015; Quality Category Assessment QCA No. Q-315-391-175, "LWT Transport Cask Assy., AECL NRU/NRX Components", Revision 1; Columbiana Hi Tech, LLC (CHT) CAR No. 15-046; Dated November 6, 2015; CHT CAR No. 15-052, dated December 9, 2015; NAC Memorandum - Subject: SIR 15-011 Use of Unqualified CHT Welders for NRX Caddy Welding, dated January 11, 2016; and CHT NRU/NRX Caddy Inspection Procedure No. NRU/NRX-CIP, Rev 0.

The team noted that the SIR 15-011 contained an evaluation performed by NAC of the failed weld and that NAC also notified CHT of the weld failure and that CHT began their own internal investigation as well. NAC's evaluation mentioned that a failure of the bottom plate to tube weld would not result in a significant change in the criticality safety of the package because the tube provides the geometry constraint relied upon for criticality safety and not the bottom plate. The evaluation also mentioned that this weld failure did not create a significant safety concern and that there were no instances, during shipment, where the conditions of CoC approval were not observed.

As part of CHT's investigation they notified NAC that they discovered that two certified welders used to perform the Caddy tube to end plate welds were not certified properly for that particular weld configuration. As such, the conditions of the CoC were not met in that the cited NAC-LWT Safety Analysis Report (SAR) requires all such welds to be performed by personnel certified in accordance with ASME Section IX. NAC concluded that their project and quality oversight of CHT which was structured to provide assurance regarding Caddy construction per the applicable requirements was not sufficient to prevent the error at CHT.

NAC and CHT concurred on corrective actions to address the event and prevent recurrence. Corrective actions proposed and completed were: steps were added to the fabrication and examination of new assemblies; procedures were developed and/or revised; additional qualification of welders to support fabrication; enhancing the new hire welder performance testing; conduct training related to the welding process and ranges qualification and limitations and use of CHT welding matrix; introduce a badge system with information for each welder and their qualifications; and implementation of a program to perform and document surveillance and oversight to ensure compliance with approved procedures. The team identified no concerns with NAC and CHT's proposed and completed programmatic corrective actions.

02.04 Interview selected personnel and review selected design documentation to determine that adequate design controls are implemented.

The team reviewed the sections of the NAC's QAM and the QPs specifically related to design development, design control and modification of design activities. The team had discussions with the NAC engineering staff and other personnel associated with design control. The team focused its review on NAC design activities related to the Part 71 Transportation Packages NAC-LWT, NAC-STC, and MAGNATRAN.

The team reviewed the following QPs:

- QP 3-1, "Control of Design Input," Revision 6
- QP 3.3, "Preparation and Checking of Design and/or License Drawings, Specifications and Technical Reports/Manuals" Revision 25
- QP 3.4, "Design Verification," Revision 10
- QP 3.7, "License Document Configuration Control" Revision 10

Concerning NAC-LWT, SAR, Revision 44, USA/9225/B(U)F-96, CoC No. 71-9225, the team reviewed CoC Revision 68 issued January 5, 2018 and noted the addition of damaged NRU/NRX fuel to the authorized package contents. The team noted the inclusion of undamaged NRU and NRX fuel assemblies within the NAC-LWT transportation package in CoC No. 9225, Revision 58, dated 2013 in which shipment of NRU/NRX fuel within the NRU/NRX fuel basket consisting of 18 tubes where a single assembly is loaded per tube and that NRX fuel is required to be shipped within a caddy which goes inside the tube which further restricts the allowable diameter the assembly can occupy.

The team reviewed selected design documentation to determine if NAC implemented adequate design controls associated with a new basket design for the NAC-LWT cask that incorporated the caddy assembly within the basket to store NRU/NRX fuel assemblies prior to transport. NAC incorporated this caddy assembly design to limit the special fuel assemblies' movement for reactivity configuration. The team noted that NAC designed, procured, fabricated, and inspected the caddy assembly tube and bottom plates to conform to the requirements of the ASME Code Section III, Subsection NG similar to those for the fuel basket. The team reviewed the SAR, and the fabrication and licensing drawing for the new caddy assembly configuration. The team also asked NAC if there was a design calculation related to the lifting operations and the weld quality factors for the bottom plates associated with the caddy assembly operation and inspection activities, respectively. NAC stated that there was no design calculation that takes credit for the weld quality factors for the caddy assembly welded bottom plates and that NAC invoked ASME Code, Section III, subsection NG as a matter of convenience since the general analysis and construction of the fuel basket was to subsection NG. The team noted that in order to conform to the design code it is not for a matter of convenience since the caddy assembly provides criticality control during transport and structural stability during lifting operations.

The team assessed this as an unresolved item regarding design control measures for the selection and review for suitability of application of an ASME Code Section III, Subsection NG requirement as it relates to a new basket design for NRX fuel assemblies. Specifically, objective evidence could not be furnished that an adequate design calculation was performed relating to the lifting operations and the weld quality factors for bottom plates associated with a caddy assembly operation and inspection activities, respectively. The NRC will continue to review this open item and NAC will be advised by separate correspondence of the results of our

deliberation on this matter. Because this item remains under NRC review, NAC is not required to respond to this matter at this time. Please be advised that the characterization of this issue described may change as a result of further NRC review.

The team reviewed MCNP5, v1.6, criticality analysis/calculation (No. 65007700-6002, Revision 0) that addressed transport of damaged NRU and NRX fuels in the NAC-LWT; execution of validation cases and comparison with referenced cases for validated versions of MCNP5, code package v1.60 (No. EA913-1060-004, Revision 3 dated 07/07/2015) under the various Windows Operating Systems used on NACs computer hardware platform and servers; and criticality validation (calculation No. 91150-1060-011, Revision 1, 10/02/2012) for intermediate and highly enriched fuel.

The team noted appropriate preparation, checks, and approvals for accuracy and completeness. In addition, the team noted, as demonstrated in the Model No. NAC-LWT Package SAR, NAC calculated source terms of the NRU and NRX undamaged assemblies for the package under both NCT and HAC using TRITON in SCALE 6.1. The TRITON models use the 238 group ENDF/B-VII library. Overall, the damaged fuel analysis code and software version were verified and results were documented as described by QPs 3-2 and 3-5 and NACs analysis/calculations adequately demonstrated subcritical under both normal and hypothetical accident conditions in the transportation of the NRU or NRX fuel.

The team reviewed NACs computer verification (EA913-1060-005, Revision 4 dated 9/25/2017) of the MCNP6 Code Package Version 1.0 dated 08/2013, under the various Windows Operating Systems on NAC computers used for shielding and criticality analysis for the MAGNASTOR storage system. MCNP6 is Monticarlo nuclear analysis package for the study of radiation shielding, nuclear criticality, and reactor physics problems. MCNP was developed by Los Alamos National Laboratory. No concerns were identified with the code verification. The team noted that MCNP6 computer program was procured through commercial grade dedication through Method 1 "Special Tests and Inspections" in accordance with QP 7-4. The team note critical characteristics safety function of the computer program were satisfactorily confirmed as prescribed within EA913-1060-005. The team noted that calculations successfully run and verified on NAC computers and that the verification package satisfied the requirements of QP 3-5.

The team reviewed the following QPs:

- QP 3-2, "Preparation and Checking of Design Calculations" Revision 12
- QP 3-5, "Computer Program Verification" Revision 9
- QP 3-6, "Identification and Control of Computer Program Errors" Revision 5

Concerning NAC-NAC-STC, SAR, Revision 18, USA/9235/B(U)F-96, CoC No. 9235, Revision 18, the team reviewed NAC's Project Plan (No. 30045-PM-001, Revision 2, date 11/2/17). The team noted the scope of the project was to supply four (4) Spent Fuel Transport Casks to China Nuclear Energy Industry Corporation (CNEIC) China National Nuclear Corporation Everclean Co, Ltd (CNNC-E) for use at Daya Bay, Lingao, and Qinshan Phase II sites. The team noted that NAC-NAC-STC is currently licensed for low burnup fuel and that a high burnup licensing amendment has been submitted to the NRC for Review.

NAC's design change request for licensing documents (DCR (L)) provides the methods for the preparation and checking of design and/or licensing drawings. The team reviewed the following DCR (L)s and determined appropriate design change controls as prescribed by QP 3-3,

"Preparation and Checking of Design and/or License Drawings, Specifications and Technical Reports/Manuals" Revision 25:

DCR (L) No. 423-802-23A dated 11/27/2017 Cask Body – NAC NAC-STC Cask (71-9235),
Document no. 423-802, Revision 23. The team noted the addition of an insulating cover is pending approval.

DCR (L) No. 315-40-172-1A, dated 5/15/2017 Lid Assembly, NRU/NRX (71-9225)
Document No. 315-40-172 Revision 2.

DCR (L) No. 71160-500-4PA dated 8/1/2017 Shipping Configuration, Transport Cask, MAGNATRAN. Document No. 71160-500 Revision 4P added a general note to specify material thickness tolerances per NRC request.

In addition, the team reviewed the following design drawings for CoC compliance:

423-800, Revision 18P, "Cask Assembly NAC-NAC-STC Cask"
455-870, Revision 5, "Canister Shell, MPC Yankee"
455-872, Revision 12, "Assembly, Transportable Storage Canister (TSC), MPC Yankee"
455-895, Revision 5, "Fuel Basket Assembly, MPC-Yankee"

Graded Quality

NAC QP 7-3, Graded Quality Categories, Revision 7, dated 10/22/2013 provides criteria for establishing an approach to QA based on importance to safety (ITS) of an item referred to as a "graded approach." The team reviewed Quality Category Assessment forms for packages NAC-LWT and NAC-STC as well as MAGNATRAN (including MAGNATOR) components. The team noted that components critical to safe operation (Category A), and items that have a major or minor impact on safety were appropriately categorized and documented either by special forms (MAGNATRAN) or existing fabrication drawings (NAC-LWT). The team reviewed a sample of NACs technical justifications used to derive the resultant quality categories, specifically Category A components. In each case the team noted that NACs engineering adequately identified critical characteristics relating to the specified safety potential failure mode, and performance requirement along with NAC QA requirements to confirm compliance.

NAC-LWT Fabrication drawings reviewed for component and assembly quality designations:

315-391-181, "Container Assembly, HENUL," Revision 3
315-391-173, "Basket Weldment, NRU/NRX," Revision 2
315-391-171, "Basket Assembly, NRU/NRX," Revision 1
315-391-172, "Lid Assembly, NRU/NRX," Revision 2
315-391-174, "Basket Spacer, NRU/NRX," Revision 1
315-390-006, "LWT Cask Body Fabrication," Revision 25

Overall, the team noted that Quality listings identified specific items of various cask systems as quality related along with assigned quality designations and that NACs evaluations and justifications of the assigned quality category classifications were based on NUREG/CR-6407. 02.05 Review selected drawings, procedures and records, and observe selected activities being performed to determine that maintenance activities meet SARP design requirements documented in the CoC.

The team reviewed selected records and interviewed personnel to verify that NAC effectively implemented a maintenance control program in accordance with their NRC approved QA Program, CoC conditions, SAR design requirements, and the requirements of 10 CFR Part 71 for the transportation of radioactive material. The team focused its review on maintenance activities pertaining to the NAC-LWT packaging and reviewed maintenance records for a period of five years for model numbers 1, 3, and 5. The team evaluated annual maintenance activities conducted at NAC's maintenance and storage facility in Wampum, PA. The evaluation included a review of maintenance requirements, inspection and maintenance procedures, completed records, and personnel training and qualification records. The team reviewed the following quality and maintenance implementing procedures QP 10-1, "Inspection and Verification" Revision 13, and 315-P-03, "NAC-LWT Annual Maintenance Procedure," Revision 21, respectively. Overall, the team assessed that the maintenance tests satisfied the requirements identified in the NAC-LWT SAR and CoC.

02.06 Observe activities affecting safety aspects of the packaging (such as maintenance and/or testing) to verify that they are performed in accordance with approved methods, procedures, and Specifications.

Based on a review of the maintenance records and procedures noted in 02.05, the team assessed that NAC used appropriate maintenance materials, tools and equipment to conduct the annual maintenance activities for the NAC-LWT packaging cask. The team verified that the inspections were comprehensive and met acceptance criteria for tests identified in the maintenance records and procedures. The team assessed and verified the results of the load and helium leakage testing of the NAC-LWT cask. The team also verified that NAC appropriately inspected attributes of the cask body and cavity, and that personnel recorded the proper information on the applicable forms and data sheets as defined and required within the NAC quality and maintenance procedures.

The team reviewed NAC's control of measuring and test equipment (M&TE) procedure to verify that NAC identified, specified, and controlled tools and equipment in accordance with applicable standards and regulatory requirements. Specifically, the team reviewed quality procedure QP 12-1, "Control of Measuring and Test Equipment," Revision 11. The team selected a sample of the M&TE used during the annual maintenance of the NAC-LWT cask. The sample included a records review of gauges, torque wrenches, and leak calibration standard equipment. The team also reviewed the calibration reports to verify calibration dates, testing standards, and traceability of the associated M&TE.

Overall, the team assessed that NAC established controls of M&TE in accordance with standards and regulatory requirements. The team assessed that NAC maintenance and operation personnel provided the appropriate information on work travelers in accordance with approved procedures. The team verified that personnel used M&TE within their rated capacities and sensitivities as documented in the annual maintenance work package. The team noted that outside vendor performed the actual calibration of torque wrenches, and helium leak-rate equipment. The team found the M&TE program to be adequate with no concerns.

02.07 Review selected drawings and records, and interview selected personnel, to verify that the procurement specifications for materials, equipment, and services received by the QA Program holder meet the design requirements.

The team reviewed the NAC QAM and QP 7-1, "Control of Purchased Items and Services," Revision 11, which prescribes the procurement of ITS items and services. The team verified

that procurement of ITS Category A items and services were made only to suppliers listed on NACs approved vendors list for that procurement scope. The team reviewed QP 4-1, "Procurement Document Control," Revision 12, and noted established responsibilities and procedural methods for procurements. The team noted that procurement documents included purchase requisitions, purchase orders, drawings/specifications used to define requirements for purchase. In addition, the team noted assigned quality categorizes to procurement documents that were developed in accordance with QP 7-3. The team noted identification of the QA criteria (i.e., 10CFR 71, Subpart H; ASME Code; 10CFR21) appropriate to the procurement and applicable vendor QA program as approved by NAC. The team noted that the vendors were listed on NACs Qualified Vendors List (dated 02/02/2018) as qualified suppliers of Category A items and services on the following POs:

Columbiana HI TECH LLS (Fabrication)
845699, dated 5/17/2017, including change orders 1 and 2), Fabrication of NRU/NRX
Lid Assemblies and Lid Bolts
845756, dated 10/10/2017, NAC-LWT Lid Bolts

RRL NDT Consulting LLC (NDE PT, LT, VT Services)
845760, dated 10/16/2017, HEUNL Canister Leak Testing for annual recertification

Vacuum Technology Inc. (Calibration Services – ISO Accredited)
845760, dated 01/11/2018, Annual Re-calibration to Helium Leak Standards

02.08 Review selected records and interview selected personnel to verify that a nonconformance control program is effectively implemented, and that corrective actions for identified deficiencies are technically sound and completed in a timely manner.

The team reviewed NAC's QAM, Section 15, "Control of Nonconforming Items" where NAC defines the requirements and assigns the responsibility for the control, identification, segregation, documentation and close-out of nonconforming items to prevent their inadvertent installation of use during fabrication, construction, operations, maintenance and testing. Further, the team reviewed procedures, QP15-1, "Control of Nonconforming Items", Revision 11 and QP15-2, "Vendor Nonconforming Reports", Revision 10.

The team reviewed a representative sampling of closed Nonconformance Reports (NCRs), related to seal welds in lower and upper impact limiters (NCR 17-004), O-ring commercial grade dedication (NCR 17-009) and bolt damage (NCR 17-005). Each NCR was resolved with a different proposed disposition such as, "Repair", "Reject" and "Scrap and Replace". The team noted that the resolution of issues documented in the various reports was appropriate, with the reports closed in a timeframe commensurate to their importance. The team reviewed NAC's QAM, Section 16. "Corrective Actions". This section defines the requirements and assigns responsibilities for identifying and correcting significant conditions adverse to quality, including provisions to prevent recurrence. The team also reviewed procedures, QP16-01, "Corrective Action Reports", Revision 6, QP16-02, "Potential Significant Deficiencies and Defects and Regulatory Reporting", Revision 9, and a representative sampling of closed "Request of Corrective Action" Reports (CAR). CAR 15-01, related to commercial grade dedication, CAR 16-01, related to welding work and CAR 17-01, related to procedures not including accurate regulatory requirements were resolved appropriately and in a timely manner. No concerns were identified with the Nonconformance and Corrective Action processes as controlled by NAC's QAP.

02.09 Review selected records and procedures, interview selected personnel, and observe selected activities affecting the safety aspects of the packaging to verify that individuals performing activities affecting quality are properly trained and qualified, and to verify that management and QA staff are cognizant and provide appropriate oversight.

The team reviewed NAC implementing procedures for staff orientation and training, graded quality categories, control of nonconforming items and nonconformance reports, regulatory reporting, corrective actions and audits, surveys and qualification of audit personnel. The team noted that these implementing procedures were in place and effective. Further, the team interviewed NAC personnel responsible for the different QAP areas and noted that they were knowledgeable of the program requirements and were implementing the program as required.

02.10 Verify that audits of the QA Program and activities affecting the safety aspects of the packaging are scheduled, have been performed as scheduled, and that identified deficiencies have been satisfactorily resolved in a timely manner.

The team reviewed NAC's QAM, Section 18, "Audits" where NAC defines the requirements and assigns the responsibilities for a comprehensive system of planned and documented audits including audits of suppliers and site activities to verify compliance with all aspects of NAC's QAP and to determine the effectiveness of the program. Additionally, the team reviewed procedures, QP18-01, "Qualification and Certification of Quality Assurance Audit Personnel", Revision. 4 and QP18-02, "Audits, Surveys and Corrective Action", Revision 11.

The team reviewed the reports for Internal Audit 17-I-01, dated November 6, 2017, Annual Management Audit 16-M-01, dated December 5, 2016 and NAC external audit of CNF 17-E-01, performed on February 21-23, 2017. The team noted that the audit was performed following NAC procedures related to the frequency of the audits, development of an audit inspection plan, use of the audit checklist and documentation/resolution of audit findings. The team noted that the audit reports contained findings and observations with adequate supporting documentation and that corrective actions for audit findings were completed appropriately and in a timely manner. Further, the team reviewed the qualifications of NAC staff participating in the audits. The team noted that audit staff qualifications were current and in accordance with the QAM and procedures.