

71-0015
72-0015

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December 18, 1996

Ms. Susan Frant Shankman
Chief, Transportation Safety and Inspection Branch
Spent Fuel Project Office, NMSS
United States Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Reply to a Notice of Nonconformance, Docket Nos. 71-0015, 72-1018

REFERENCE: NRC Inspection Report No. 71-0018/96-210 - 72-1015/96-209

Dear Ms. Shankman:

As requested by the referenced Inspection Report, NAC International (NAC) is pleased to provide the following reply to the subject Notice of Nonconformance.

We have structured our reply in accordance with the instruction provided in the Notice of Nonconformance to include: (1) the reason for the nonconformance, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be (or have been) taken to avoid further noncompliances, and (4) the date of corrective action completion. To facilitate your review, we have restated the nonconformance and used the same numbering system as contained within the Notice of Nonconformance. A separate response, which includes this information, is attached for each of the noted instances of nonconformance. A combined sheet was used when a grouping of similar issues was addressed by the same corrective action.

Please contact me or Howard Smith should you desire any additional information.

Sincerely,



Edward M. Davis

Attachments: As stated above

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NAC International Response
Issue Number 1

Nonconformance:

“Contrary to the above, an unqualified Quality Assurance (QA) administrative staff member was allowed to approve Document No. 260, “Design Control Procedure,” instead of the QA Manager. (Reference Paragraph 3.2.1 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The cause of the above condition cannot be precisely identified due to the fact that these personnel no longer work for NAC. Personal recollection by NAC individuals who were employed by the company during the period of interest was that the QA Manager routinely reviewed documents while at field locations and called in his comments. He then had his assistant sign the document. It is surmised that, based on other missed commitments, a chronic staffing shortage existed at that time, and this may have also contributed to a need for the assistant to approve procedures.

Corrective Steps Taken And Results Achieved:

A considerable number of audit findings related to procedure content conflicts and deficiencies were identified in recent NAC conducted internal audits. As a result, a comprehensive review and revision of the QA Manual and QA Procedures was carried out to enhance their procedural control. The QA Manual and procedures in place at the time of the NRC inspection have now been superseded by properly approved documents.

Corrective Steps To Avoid Further Noncompliance:

The re-issued NAC QA Manual allows task performance, as described or referenced in the QA Program to be delegated to “competent, qualified persons”, but requires that the responsibility for quality compliance remains with the assigned personnel. Additionally, staffing within the Quality Assurance Department has been significantly increased.

Routine comprehensive internal and management audits will be used to confirm continued compliance with the NAC Quality Assurance Program.

Date For Corrective Actions To Be Complete: Completed 11/15/96

NAC International Response
Issue Number 2

Nonconformance:

“Contrary to the above, certification records showing that personnel who performed annual maintenance on Model NAC-LWT’s in Taiwan were Certified Cask Operators were not available. In addition, the same individuals were also not listed on the NAC Cask Qualification/Training Record. (Reference Paragraph 4.4 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The reason for this Nonconformance is failure of personnel to follow approved operator training procedure 190 which defined the training and certification program criteria for “qualified operators” of NAC’s casks.

Other factors which contributed to the above nonconformance include a general lack of training of NAC personnel in “verbatim” procedure compliance. An additional factor was that the training and maintenance procedural controls were not as clearly stated as they could have been. Finally, management oversight regarding compliance with approved procedures was inadequate.

Corrective Steps Taken And Results Achieved:

Due to this deficiency being potentially significant regarding indeterminate cask maintenance acceptability, NAC initiated Corrective Action Request (CAR) 96-004 to address it. As a result of the reviews conducted per this CAR, no further examples of unqualified cask operators were identified and the cask operator involved was found to have been supervised by a properly qualified operator on all but one maintenance. That cask was evaluated for evidence of further use and was found not to have any use following the maintenance in question. As with all other NAC casks, that cask is not to be returned to service until a new maintenance is performed.

Corrective Steps To Avoid Further Noncompliance:

Actions to prevent recurrence of this problem include:

- Revision of operating, training, and maintenance procedures as required to better delineate requirements.
- Training of applicable NAC personnel in cask maintenance procedures and verbatim procedure compliance requirements prior to their next involvement in cask maintenance activities.
- Revision of the NAC QA Manual and Quality Procedures to better describe and control quality Program requirements.

Date For Corrective Actions To Be Complete:

Completed 12/15/96

NAC International Response
Issue Number 3A

Nonconformance:

"Leak test requirements specified in Certificate of Compliance No. 71-9225 for the Model NAC-LWT packaging were not translated into a maintenance procedure. The packaging leak test was deleted from the NAC-LWT SAR and the Annual Maintenance Procedure, Document No. 315-P-03. (Reference Paragraph 3.2.2.A of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The Helium Leak Test for the cask lid was deleted from the Annual Maintenance Procedure 315-P-03 revision 2 and 3, while the test was still a requirement of the Certificate of Compliance. The test was deleted as an annual maintenance requirement due to the fact that the same test is required prior to each cask shipment and restating the requirement was deemed to be redundant.

Corrective Steps Taken And Results Achieved:

Cask Annual Maintenance Procedure 315-P-03 has been revised to include the requirement for performing a helium leak test on the NAC-LWT cask closure lid as specified in the NAC-LWT SAR. All NAC-LWT casks have undergone a complete annual maintenance in accordance with the Certificate of Compliance and the SAR. This performance was witnessed by the NRC. All of the NAC-LWT casks have now been returned to service.

Corrective Steps To Avoid Further Noncompliance:

All NAC personnel involved with cask maintenance have undergone training on the requirements of the new maintenance procedure and the requirement for verbatim procedural compliance. Each NAC Site and Transportation Services employee has been reminded, by letter from the group Vice President, of the need to review license documentation when making procedural changes.

Date For Corrective Actions To Be Complete:

Completed 11/15/96

NAC International Response
Issue Number 3B, 3C, 3D, 3E, 3G, 3H, 9A, 10B, 10C, and 11E

Nonconformance 3B:

“An independent review of a design calculation package SF 487-001 was not completed. The design calculation package was not approved by the Functional Manager nor the Project manager authorizing the start of the review work and it did not have the Project Manager’s approval signature closing the design effort. (Reference Paragraph 3.2.2.B of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 3C:

“Work Request and Report GRR.17 did not have evidence of required design review. Furthermore, Work Request and Report GRR.17 did not have required management approval signatures for initiation of work. (Reference Paragraph 3.2.2.C of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 3D:

“Work Request and Report N95-12 did not contain a design results synopsis and was not approved by the Project Manager, (Reference Paragraph 3.2.2.D of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 3E:

“Work Request and Reports GRR.4, GRR.5, and GRR.12 were completed without obtaining final management approval signatures. (Reference Paragraph 3.2.2.E of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 3G:

“Work Request and Report N95-12, for a design modification source term calculation, did not contain the Project Manager’s nor Functional Manager’s approval signatures. (Reference Paragraph 3.3.B of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 3H:

“Modification to a design calculation package STC-57 did not have Project Manager and Functional Manager approval signatures. (Reference Paragraph 3.3.C of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 9A:

“Calculations on design analysis sheets for Work Request and Report No. GRR.4 were incorrectly changed using line-outs, “white-out,” and nonpermanent methods (e.g.,

NAC International Response
Issue Number 3B, 3C, 3D, 3E, 3G, 3H, 9A, 10B, 10C, and 11E

changes made in pencil). These changes were made without any indication as to who made the changes or when the changes were made. (Reference Paragraph 3.2.6 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 10B:

“The signatures of the Independent Reviewer, Functional Supervisor, and Project Manager were missing from the Work Request and Report for the design calculation packages STC-75, “Quasi-Static Limiter Design Analysis,” and STC-79, “Inner Lid Bolt Torque and Preload.” The signatures of the individual performing the work and the independent Reviewer were missing from the Work Request and Report for the design calculation package STC-570, “Design and Structural Evaluation of Revised Outer Lid.” (Reference Paragraph 3.2.3.B of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 10C:

“The reviewer of calculation packages STC-153, “PT-71 Vibration Analysis,” STC-571, “Test Plan and Equipment for 1/4 Scale Quasi-Static Test,” and STC-572, “1/4 Scale Quasi-Static Test and Reports,” did not have sufficient independence. One individual signed as the independent Reviewer and Functional Supervisor. (Reference Paragraph 3.2.3.C of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Nonconformance 11E:

“Work Request and Report Log No. N96-1 did not contain the required Project Manager’s approval signature prior to execution of the work as required by NAC Document No. 260, “Design Control.” (Reference Paragraph 3.2.7.E of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The primary causes of this nonconformance were:

1. Ambiguous, poorly written procedures
2. Failure to follow approved procedures
3. Lack of attention to detail
4. Inadequate Management oversight

Corrective Steps Taken And Results Achieved:

NAC, in our response to the NRC Confirmatory Action Letter, committed to assembling a special Design Review Team (DRT). The DRT has determined and performed prudent actions to confirm the accuracy and completeness of our analytical documents

NAC International Response
Issue Number 3B, 3C, 3D, 3E, 3G, 3H, 9A, 10B, 10C, and 11E

used as the basis to support basic designs and changes for all transportation packages and dry storage systems for the time period 1990 to present. Our initial effort focused on the NAC-LWT cask. The NAC-LWT review was completed on 11/18/96.

Every nonconforming condition was noted, evaluated and dispositioned. None of the noted anomalies were determined to affect the technical adequacy or safety of the licensed NAC-LWT casks nor require any changes in the documentation submitted to the NRC that formed the basis for the Certificate of Compliance approval.

The NAC S/T cask was reviewed. It has not been subjected to any design changes or modifications since the 1990 time period and was therefore determined to not warrant any additional evaluation.

A review of the NLI 1/2 cask design documentation is now underway and is anticipated to be completed by mid February 1997. A similar review will then be conducted for the NAC-STC cask.

Corrective Action Request (CAR) 96-003 was developed to provide the formal QA Program mechanism to document and resolve this issue.

Corrective Steps To Avoid Further Noncompliance:

NAC's overall Quality Assurance program, QA Manual, and implementing procedures were critiqued and upgraded. NAC personnel, including management, were trained in the requirements of the new procedures and the need for verbatim compliance with the new procedures. This verbatim compliance training included the implementation of all required reviews and the signature verification of such reviews as well as record completion and correction practices.

<p>Date For Corrective Actions To Be Complete: Completed 11/18/96 for the NAC-LWT, completed 11/21/96 for the NAC-S/T, 2/15/97 for the NLI 1/2, and 3/15/97 for the transportation portion of the NAC-STC, with the storage portion immediately thereafter, or prior to authorizing the first use of the cask (none of this type cask has ever been fabricated).</p>

NAC International Response
Issue Number 3F

Nonconformance:

“The design modification review for a Model NAC-LWT alternate drain pipe did not include a review of associated materials and parts. There were no records available documenting which Model NAC-LWTs had the alternate drain pipe installed. (Reference Paragraph 3.3.A of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The design modification review of the alternate drain pipe did not include the associated material and parts due to a lack of an adequate procedural requirement describing the proper methodology to be employed for evaluation of design changes. The reason for the records not indicating which cask has the alternate drain line is also attributed to a lack of an appropriate procedural requirement. Both situations reflect the results of a sustained lack of adequate management oversight.

Corrective Steps Taken And Results Achieved:

A design modification review was performed on the NAC-LWT drain line including the associated materials and parts on September 26, 1996. The results of this review confirmed that the modification had no direct impact on the associated materials and parts.

Procedure No. 315-P-03 “NAC-LWT Annual Maintenance Procedure” Revision 5 was issued to include section 8. “Cask Configuration Form”. This will require the configuration of each cask (including drain line configuration) to be documented during the annual maintenance. Additionally, procedure No. 315-P-02 “NAC LWT Cask Generic Operating Procedure” Revision 3 required that all cask users provide NAC International with the cask configuration in writing after each cask use.

Corrective Steps To Avoid Further Noncompliance:

NAC Quality Procedure 3-4 (Design Verification) was formally invoked on November 15, 1996. This procedure provides the procedural requirements to assure that all designs (and their associated changes) have been properly verified. Also, Procedure No. 315-P-03 was revised to require recording of the specific cask configuration during it's annual maintenance. Finally, applicable NAC personnel responsible for cask annual maintenance and those responsible for design verification have been trained to the requirements of the new and revised procedures.

Date For Corrective Actions To Be Complete:

Completed 11/26/96

NAC International Response
Issue Number 4A

Nonconformance:

"NAC did not have procedures for using the Audit Finding Reports and Audit Finding Logs. Audit Finding Report Nos. 96/E-04-F-01 through 07 were not completed and the 1996 Audit Finding Log was not current. (Reference Paragraph 2.5 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The reason for this condition was that at the time of the inspection, QA reviews of finding responses to 96/E-04 audit findings were in process so the log was not yet updated. However, the finding responses were being tracked on the audit findings and Quality Procedures were in the process of being developed to formalize this process.

Corrective Steps Taken And Results Achieved:

A review was performed of all outstanding audit finding reports to assure they reflected their accurate and current close out status. Appropriate documentation was added to the Audit Finding Report files.

Corrective Steps To Avoid Further Noncompliance:

Quality Procedure 18-2 was developed, approved, and is now being used to control the use of Audit Finding Reports and follow-up on issued Audit Finding Reports. Informal, documented weekly reviews of Audit Finding response status are being performed by NAC International Quality Assurance.

Date For Corrective Actions To Be Complete:

Completed 11/15/96

NAC International Response
Issue Number 4B

Nonconformance:

"A Computer Output Cover Sheet was not used in support of design activities as required by NAC Document No. 260, "Design Control." (Reference Paragraph 3.2.4.A of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The primary causes of this nonconformance were:

1. Failure to follow approved procedures
2. Inadequate procedural direction
3. Lack of attention to detail
4. Inadequate Management oversight

Corrective Steps Taken And Results Achieved:

NAC convened an independent Design Review Team (DRT) to evaluate the impact of these, and other similar conditions, for all the WRRs associated with the NAC-LWT Cask's Certificate of Compliance Amendments since 1990. Part of the DRT effort was to confirm and document that all computer codes used for analysis had been adequately verified and documented. This review for the NAC-LWT was completed on 11/18/96 and concluded that although the format for computer output differed from the applicable procedural requirements, the codes had in fact been adequately verified and were traceable to the appropriate verification records.

The same conditions will be evaluated and dispositioned for all licensed NAC casks. Based on the NAC-LWT DRT results, a high degree of confidence exists that this nonconforming condition will have no technical impact on other licensed casks.

Corrective Steps To Avoid Further Noncompliance:

NAC's overall Quality Assurance program, QA Manual, and implementing procedures were critiqued and upgraded. NAC personnel, including management, were trained in the requirements of the new procedures and the need for verbatim compliance with the new procedures. This verbatim compliance includes the implementation of all required reviews and signature verification of such reviews.

<p>Date For Corrective Actions To Be Complete: Completed 11/18/96 for the NAC-LWT, completed 11/21/96 for the NAC-S/T, 2/15/97 for the NLI 1/2, and 3/15/97 for the transportation portion of the NAC-STC, with the storage portion immediately thereafter, or prior to authorizing the first use of the cask (none of this type cask has ever been fabricated).</p>

NAC International Response
Issue Number 4C

Nonconformance:

"Master Logs were not used as required by NAC Document No. 204, "Controlled Documents." (Reference Paragraph 3.2.4.B of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

Master logs for controlled documents and drawings were not complete and were not maintained in the manner prescribed by procedure 204 because of inadequate training of both document control clerks and Project Managers regarding verbatim procedure compliance. This condition was exacerbated by the lack of meaningful feedback caused by the lack of QA department internal audits from September of 1994 to September of 1996.

Corrective Steps Taken And Results Achieved:

NAC internal QA Audit Finding 96-I-02-F3 identifies the lack of input from Project Managers to document control for the preparation of master logs. This finding also addresses other controlled document processing deficiencies associated with indexing, transmittal and logging of controlled documents and drawings. This finding requires that controlled documents be accurately listed in controlled document distribution logs for all applicable projects.

Controlled document distribution logs per the new Quality Procedures have been prepared to accurately reflect the listing of controlled documents, assigned recipients and the applicable distribution receipt acknowledgment status.

Corrective Steps To Avoid Further Noncompliance:

Procedure 204 has been replaced with Quality Procedures (QP's). QP's 5-3 and 6-1 address development and distribution of controlled documents. Applicable NAC personnel have been trained in their responsibilities under the new QP's. Routine, periodic internal audits will be used to confirm continued compliance with the applicable procedural requirements.

Date For Corrective Actions To Be Complete:	Completed 12/13/96
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NAC International Response
Issue Number 4D

Nonconformance:

“Purchase Order Requests for Purchase Order Nos. 96-00418 and 96-00418 [96-0050] were not signed by the QA Manager. The test activity required by Purchase Order No. 96-00418 was not identified as safety related. (Reference Paragraph 4.5.1.A of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The main reason for this nonconformance was failure to follow existing procedures. Both of these requests were for safety related services, but were not subjected to Quality Assurance review/approval.

Contributing factors related to this nonconformance included the lack of adequate Quality Assurance staffing and an incorrect understanding regarding the requirements of the NAC Quality Assurance Program. For PO 96-00418, NAC personnel mistakenly believed this PO did not require a QA review since it's sole purpose was to add additional funding to the procurement scope. As a result, the change order was not sent to the QA department for review/approval.

Corrective Steps Taken And Results Achieved:

In the case of P.O. 96-00418, no additional corrective steps were warranted since no technical or quality related status changes to the purchase order resulted from the above deficiency.

Regarding P.O. 96-0050, the calibrated wrench was found not to have been used by NAC after the purchased calibration. The wrench was subsequently removed from active service.

In addition, a general review was performed of all 1990-1996 purchases for safety related applicability, approved vendor use, 10CFR21 invocation, and technical/quality requirement conformance. These actions were carried out under Audit Finding 96-I-02-F2 and CAR 96-002. All resulting areas of noncompliance were resolved in accordance with the requirements of the NAC Quality Assurance Program.

Corrective Steps To Avoid Further Noncompliance:

Corrective steps taken to avoid further instances of this deficiency consisted of:

- Revision to the NAC Quality Assurance Manual

NAC International Response
Issue Number 4D

- Revision to the Quality Procedures to clarify purchase order approval requirements and controls
- Training of applicable personnel in purchase order review/approval requirements
- Revised purchase order form to better control QA review/approval
- Hiring of a purchasing clerk to manage the purchase order processing.

Date For Corrective Actions To Be Complete:

Complete 11/15/96

NAC International Response
Issue Number 4E

Nonconformance:

"The Receiving Inspection Report for torque wrench Serial No. 01347 was not signed by the QA Manager. The torque wrench was used in maintenance activities. (Reference Paragraph 4.5.1.B of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The main reason for this nonconformance is failure of personnel to follow procedures.

Corrective Steps Taken And Results Achieved:

Corrective actions concerning this problem included a review of subsequent wrench applications. No instances of the use of the subject wrench were found in any maintenance performed subsequent to the calibration purchase.

Corrective actions concerning other possible unreviewed safety related receipt inspections consisted of performance of a general review of all 1990-1996 purchases for safety related applicability, approved vendor use, 10CFR21 invocation, and technical/quality requirement conformance. These actions were carried out under Audit Finding 96-I-02-F2 and CAR 96-002. All resulting areas of noncompliance were resolved in accordance with the requirements of the NAC Quality Assurance Program.

Corrective Steps To Avoid Further Noncompliance:

Steps taken to avoid recurrence of this problem include:

- Revision to the QA Manual to better describe procurement requirements.
- Implementation of new quality procedures which improve NAC procurement and receipt inspection controls. Examples of these improvements include the use of qualified receipt inspectors and receipt inspection checklists.
- Training of personnel in receipt inspection requirements.

Date For Corrective Actions To Be Complete:

Completed 11/22/96

NAC International Response
Issue Number 5

Nonconformance:

“Contrary to the above, an unapproved vendor was used to calibrate a 50 - 400 lb. torque wrench as documented in Purchase Order No. 96-0050. (Reference Paragraph 4.6 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The main cause of this nonconformance was that personnel in charge of procuring calibration services and those responsible for receipt inspection were not aware that the calibration vendor (although listed on the Qualified Vendors List) had not been re-audited as required.

A contributing factor in this deficiency is that the Qualified Vendors List was not updated from September of 1994 to July of 1996. This was due to inadequate Quality Assurance staffing.

Corrective Steps Taken And Results Achieved:

Cask maintenance performed since the wrench was calibrated has utilized other torque wrenches supplied and maintained by an approved supplier. The wrench in question has not been used for nuclear safety related work.

The QA program deficiencies which allowed this improper procurement and receipt have been addressed in Audit Finding 96-I-02-F2 and CAR-96-002. Corrective actions were completed as of 11/22/96 and include:

- Improved purchase order review controls to more clearly delineate nuclear safety related purchase orders. This has resulted in all safety related orders being clearly marked as such and containing applicable quality requirements.
- Improved Qualified Vendors list format and maintenance.
- Improved receipt inspection controls including the requirement for a certified inspector to perform receipt inspections.

Corrective Steps To Avoid Further Noncompliance:

Comprehensive Quality Procedures have been developed and issued for use in procurement and receipt inspection activities. These controls are designed to prevent nonconforming items and vendors from being used for nuclear safety related applications. Applicable NAC personnel have been trained to the requirements of our new Quality Procedures.

Date For Corrective Actions To Be Complete:	Completed 11-22-96
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NAC International Response
Issue Number 6

Nonconformance:

"Contrary to the above, manufacturing Traveler Serial No. 01749 for the fabrication of MTR baskets for the Model NAC-LWT contained recorded dimensions that were not within specified tolerances. (Reference Paragraph 3.2.5 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

This nonrepetitive incident of the improper recording of a measured dimension is attributed to a simple error by the inspector.

Corrective Steps Taken And Results Achieved:

Approved vendor (Hi Tech) Nonconformance Report # 1100 was written on 9/24/96 to resolve this discrepancy. NCR 1100 was dispositioned "Use-As-Is" with a correction to be made to the traveler. The dimension involved was 43.63 "and was incorrectly recorded as 4.63". The traveler was revised on the same day and provided to NAC for inclusion with the project records.

Corrective Steps To Avoid Further Noncompliance:

Although this occurrence is considered to be an isolated incident, the HiTech inspector has been reminded of the significance of accurately recording data.

Date For Corrective Actions To Be Complete:

Completed 9/24/96

NAC International Response
Issue Number 7

Nonconformance:

“Contrary to the above, a nonconforming Model NAC-LWT having a non-rotating bushing was placed in service. (Reference Paragraph 4.2 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The NAC-LWT annual maintenance report dated 3/27/96 for NAC-LWT Cask #2, page 21, notes that two trunnion bushings were replaced as the old trunnions failed to rotate freely as required by Annual Maintenance Procedure 315-P-03. The new bushings rotated while in use, however they would not rotate freely by hand as required. NAC personnel mistakenly believed it was acceptable for the bushings to not rotate freely by hand as that situation would not negatively affect the bushing use while the cask was in service.

Corrective Steps Taken And Results Achieved:

All NAC-LWT casks have successfully undergone a complete annual maintenance program, including replacement of the non-freely rotating trunnion assemblies prior to their return to service.

Corrective Steps To Avoid Further Noncompliance:

NAC personnel involved with cask maintenance have been trained to the new requirements of cask Annual Maintenance Procedure 315-P-03. This training included the importance of verbatim procedural compliance as well as the control and disposition of nonconforming conditions. Also, NAC personnel have been instructed by the group Vice President, of the requirements for and importance of proper documentation while performing annual cask maintenance. All these activities occurred prior to authorizing continued involvement by NAC personnel with additional cask maintenance activities.

Date For Corrective Actions To Be Complete:

Completed 11/15/96

NAC International Response
Issue Number 8

Nonconformance:

"Contrary to the above, during the NRC inspection at NAC on November 13-16, 1989, a violation was identified regarding the requirements of 10 CFR 21.6(a). Required Part 21 documents were not posted at the time of the November 1989 inspection. NAC committed to perform a 'Quarterly' review of required postings to assure they are in place. However, records of the quarterly review of Part 21 postings were not available. (Reference Paragraph 2.3 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The commitment to perform a quarterly review was not translated into a procedural control. The reason for this nonconformance cannot be determined from available documentation.

Corrective Steps Taken And Results Achieved:

Postings were current at the time of the NRC inspection. In addition, Quality Procedure 16-2 was implemented 11/15/96. This Quality Procedure describes 10CFR21 posting and control of posted material.

Corrective Steps To Avoid Further Noncompliance:

Posting of 10CFR21 notices is scheduled to be verified as part of the annual QA internal 18 criteria audit. This element is a part of the standard checklist for these audits.

Date For Corrective Actions To Be Complete:

Completed 11-15-96

NAC International Response
Issue Number 9B

Nonconformance:

"The Equipment History Card for torque wrench Serial No. 01347 was not updated to reflect the calibration performed as directed by Purchase Order No. 96-0050. (Reference Paragraph 4.5.2.A of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The primary reason for the above referenced nonconformance was a failure of NAC personnel to follow approved procedures.

Corrective Steps Taken And Results Achieved:

NAC performed an internal review and determined that the torque wrench in question (Serial No. 01347) was not used on NAC equipment subsequent to it's recalibration.

Corrective Steps To Avoid Further Noncompliance:

The Measuring and Test Equipment (M & T E) program for NAC has been contracted to a qualified vendor. NAC uses M&TE supplied by that qualified vendor for use on our casks.

NAC Cask Operators have received additional training to the requirements of the cask annual maintenance procedure. Also, NAC personnel involved with cask annual maintenance have received additional training on the latest revisions of all applicable procedures including the importance of verbatim procedural compliance.

Records substantiating the usage of M&TE on NAC hardware will be maintained on the applicable process control (inspection) documents in accordance with QP's 10-1 (Inspection) and 12-1 (Control of Measuring and Test Equipment). Routine, periodic internal audits will be employed to document continued compliance with this requirement.

Date For Corrective Actions To Be Complete:	Completed 11/15/96
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NAC International Response
Issue Number 9C

Nonconformance:

“The Calibration Certificate for torque wrench Serial No. 01347, which was calibrated as directed by Purchase Order No. 96-0050, was not available to the inspectors. (Reference Paragraph 4.5.2.B of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

Inadequate receipt inspection attributed to poorly written procedures and inadequate training.

Corrective Steps Taken And Results Achieved:

A copy of the appropriate calibration certificate was received on 9/30/96 from the Calibration Supplier. Additionally, as a result of an internal NAC review, it was determined that this wrench was not used on any NAC equipment subsequent to its recalibration.

In addition, a general review was performed of all 1990-1996 purchases for safety related applicability, approved vendor use, 10CFR21 invocation, and technical/quality requirement conformance. These actions were carried out under Audit Finding 96-I-02-F2 and CAR 96-002. All resulting areas of noncompliance were resolved in accordance with the requirements of the NAC Quality Assurance Program.

Corrective Steps To Avoid Further Noncompliance:

Receipt inspection of Quality related items will be performed by NAC approved/qualified inspection personnel only.

Quality Procedure 2-2, “Qualification of Inspection, Examination, and Test Personnel” and Quality Procedure 10-1 “Inspection and Verification” were implemented 11/15/96.

Date For Corrective Actions To Be Complete: Completed 11/15/96

NAC International Response
Issue Number 10A

Nonconformance:

“An NAC supervisor, who did not have sufficient independence from the original design effort, approved a design package. (Reference Paragraph 3.2.3.A of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

The particular Work Request in question involved the development of the structural model of the cask body using ANSYS. This model was very complex and would have significant impact on future structural analysis work. Due to the significance and complexity of this model, it was determined that the most experienced and competent person available should review the WRR for adequacy and accuracy. This person was the supervisor of the individual performing the model development.

Corrective Steps Taken And Results Achieved:

In accordance with the approved project planning for this project (Universal Multipurpose Canister System), formal design reviews of the overall cask design are scheduled prior to submittal of the Safety Analysis Reports to the Nuclear Regulatory Commission. These Design Reviews will provide the formal design verification for the subject calculation package as well as the complete design.

Since these two formal Design Reviews are scheduled which encompass the overall design, no additional corrective action is deemed necessary.

Corrective Steps To Avoid Further Noncompliance:

New Quality Procedures containing enhanced guidance addressing the development, checking and verification of design documentation have been approved and issued. Formal project planning will be utilized to specify an appropriate method of design verification for future projects. In addition, NAC personnel involved in the performance of these activities were trained in the requirements of the new procedures and the need for verbatim compliance with procedures.

Date For Corrective Actions To Be Complete:	Completed 11/15/96
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NAC International Response
Issue Number 11A

Nonconformance:

“A modification to a Certification of Verification/Validation sheet required by NAC Document No. 262, “Computer Software Control,” was not controlled. (Reference Paragraph 3.2.7.A of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)”

Reason For Nonconformance:

Previous procedures contained inadequate guidance pertaining to the update and revision of software and hardware verification documentation.

Corrective Steps Taken And Results Achieved:

The Verification documentation for the RBCUBED program will be supplemented to include the information required by the new NAC Quality Procedures.

In addition, NAC issued Corrective Action Request (CAR) 96-005 to address computer program verification and supporting documentation. In response to this CAR, NAC engineering personnel evaluated the adequacy of the verification documentation for all actively used computer programs and systems. Historically used computer programs were evaluated during the Design Review Team (DRT) process as discussed in our response to issue numbers 3B-3E, 3G, 3H, 9A, 10B, 10C and 11E. The verification documentation was supplemented and corrected as necessary to meet the requirements of applicable NAC Quality Procedures.

Corrective Steps To Avoid Further Noncompliance:

NAC's overall Quality Assurance program, QA Manual, and implementing procedures, including QP 3-5 for computer program verification, were upgraded and reissued. NAC personnel, including management, were trained in the requirements of the new procedures and the need for verbatim compliance with the new procedures. Also, the requirements and proper methods for changing or correcting information on Quality Records was addressed in this training.

Date For Corrective Actions To Be Complete: 1/15/97
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NAC International Response
Issue Number 11B

Nonconformance:

"NAC Employee Training/Indoctrination Records were not used as required by NAC Document No. 414, "Indoctrination and Training." (Reference Paragraph 3.2.7.B of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

Training/Indoctrination Records were not used correctly for several reasons. The procedure was unclear about the required use of the form examples provided. The procedure was also unclear about how various types of completed training was to be entered on these forms.

Overall failure to follow procedure 414 format was caused by a lack of management involvement in assuring that such procedures were functional and that personnel complied with established procedures. A significant contributor to this situation was the lack of adequate QA audits and surveillances in this area.

Corrective Steps Taken And Results Achieved:

Procedure 414 was replaced by Quality Procedure 2-1. This procedure better addresses various types of training and provides for documentation which is tailored to the specific training involved.

Corrective Steps To Avoid Further Noncompliance:

NAC's overall Quality Assurance program, QA Manual, and implementing procedures, were critiqued and upgraded. NAC personnel, including management, were trained in the requirements of the new procedures and the need for verbatim compliance with the new procedures. Also, the requirements and proper methods for documenting training and indoctrination were presented.

Date For Corrective Actions To Be Complete:

Completed 11/15/96

NAC International Response
Issue Number 11C

Nonconformance:

"Additional required computer input information was not addressed in Section IV of the NAC "RBCUBED" software manual. (Reference Paragraph 3.2.7.C of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

Previous procedures contained inadequate guidance pertaining to the update and revision of NAC generated computer user's manuals.

Corrective Steps Taken And Results Achieved:

The RBCUBED software manual will be updated and reissued to incorporate the additional information identified as required in the "notes" in Section IV of the manual. In addition, the manual will comply with all applicable requirements for document preparation, review and approval specified in the new Quality Procedures. It was not necessary to make changes to any other computer codes since RBCUBED is the only software program that has an NAC developed users manual.

Corrective Steps To Avoid Further Noncompliance:

NAC developed new Quality Procedures containing enhanced guidance regarding the preparation, review and approval of documents, including NAC generated computer software manuals. In addition, NAC personnel involved in these activities have been trained in the requirements of the new procedures.

Date For Corrective Actions To Be Complete: 1/31/97
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NAC International Response
Issue Number 11D

Nonconformance:

"File comparison worksheets generated to document satisfactory installation at individual personal computers were not present for personal computers installed in August and September of 1996. (Reference Paragraph 3.2.7.D of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The primary causes of this nonconformance was inadequate guidance in the procedure effective at the time the activity in question was performed.

Corrective Steps Taken And Results Achieved:

As noted in the NRC Inspection Report, as soon as this situation was identified by the inspector, NAC personnel prepared the file comparison worksheet and included it with the appropriate WRR (WRR 96-1).

Corrective Steps To Avoid Further Noncompliance:

NAC's overall Quality Assurance program, QA Manual, and implementing procedures, including QP 3-5 for computer program verification, were critiqued and upgraded. NAC personnel, including management, were trained in the requirements of the new procedures and the need for verbatim compliance with the new procedures. Also, the requirements and proper methods for changing or correcting information on Quality Records was addressed in this training.

Date For Corrective Actions To Be Complete:	Completed 11/15/96
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NAC International Response
Issue Number 11F

Nonconformance:

"Work Request and Report Log No. N96-2 incorrectly classified a computer program as a Category 1 program on the required Computer Resources Manual sheet. The computer program was actually verified as a Category 2 program. (Reference Paragraph 3.2.7.F of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The incorrect classification of the ANSYS program as Category 1 occurred because of a lack of proper understanding of the procedural requirements. This lack of understanding occurred because of inadequate procedural guidance and training in the procedural requirements.

Corrective Steps Taken And Results Achieved:

ANSYS has been properly classified as a Category 2 computer program. Documentation, in accordance with the requirements of Quality Procedure 3-5, confirming the previous verification activities, is currently being prepared. In addition, all other currently used computer programs were evaluated and determined to have the proper category designation in accordance with the applicable NAC Quality Procedures.

Corrective Steps To Avoid Further Noncompliance:

A new Quality Procedure containing enhanced guidance for the classification of computer programs has been developed and issued. NAC personnel have been trained in the requirements of the new procedure and the need for verbatim compliance with procedures.

Date For Corrective Actions To Be Complete:	1/31/97
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NAC International Response
Issue Number 11G

Nonconformance:

"After Revision 1 of Work Request and Report Log No. N96-1 was closed out, additional work was performed on a personal computer. However, the Software Log did not specify the nature of the additional work. (Reference Paragraph 3.2.7.G of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The procedure in effect at the time the activities in question were performed provided inadequate guidance.

Corrective Steps Taken And Results Achieved:

The Work Request in question was revised to remove the Hardware verification log. This log is now being maintained as a part of the Computer Resource Manual so it can be updated as additional hardware is verified.

Corrective Steps To Avoid Further Noncompliance:

NAC developed a new Quality Procedure (QP 3-5) controlling the verification of hardware and software which contained enhanced guidance for these type activities. In addition, NAC personnel performing these type activities were trained in the new procedure and process.

Date For Corrective Actions To Be Complete: Completed 11/15/96

NAC International Response
Issue Number 12

Nonconformance:

"Contrary to the above, NAC Document No. 215, "Procedure for Preparation of Drawings," did not define actions to be taken to ensure drawing changes were properly captured in other affected documents. (Reference Paragraph 3.2.8 of Inspection Report No. 71-0018/96-210 - 72-1015/96-209.)"

Reason For Nonconformance:

The primary cause for this condition was inadequate procedures.

Corrective Steps Taken And Results Achieved:

The new Quality Procedure 3-3 for control of design output documents now includes provision for identification of other affected documents on a Design Change Request. A Design Change Request is required for every revision of a design document. In addition, provision is included for verification of incorporation of the changes into the affected documents by signature of the applicable Project Manager.

Corrective Steps To Avoid Further Noncompliance:

In addition to the issuance of the new procedure, NAC personnel involved in the design change process have been trained in the requirements of the new procedure

Date For Corrective Actions To Be Complete:	Completed 11/15/96
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