NRC FORM 591S PART 1
(8-2002)
10 CFR 2.201

U.S. NUCLEAR REGULATORY COMMISSION

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/CERTIFICATE HOLDER	2. NRC/REGIONAL OFFICE
Transnuclear, Inc. 7135 Minstrel Way, Suite 300 Columbia, MD 21045 REPORT NUMBER(S) 72-1021/2009-202	Division of Spent Fuel Storage and Transportation U. S. NRC M/S EBB-3D-02M Washington, DC 20555-0001

3. LICENSEE/CERETIFICATE NUMBER(S)	4. INSPECTION LOCATION	5. DATE(S) OF INSPECTION
72-1021	Columbia, MD	November 2 – 6, 2009

The inspection was an examination of the activities conducted under your Nuclear Regulatory Commission (NRC) approved Quality Assurance Program related to compliance with the NRC's rules and regulations with regard to activities subject to 10 CFR Part 71 and 72. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspectors. The inspection findings are as follows:

☒ 1. Based on the inspection findings, no violation or nonconformances were identified.

☒ 2. Previous violations(s) or nonconformance(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, NUREG-1600, to exercise discretion, were satisfied.

_____ Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Actions(s):

☐ 4 During this inspection certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This is a NOTICE OF VIOLATION which may be subject to posting in accordance with 10 CFR19.11.

(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 I made in accordance with the requirements of 10 CRF 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; OR

☐ Written Response requested in 30 days ☐ Yes ☐ No

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE	Tara Neider	Tara Neider	11/5/09
NRC INSPECTOR	Rob Temps	Robert R Temps	11/05/09

INSPECTOR NOTES COVER SHEET

Licensee/Certificate Holder (name and address)	Transnuclear, Inc. (TN) 7135 Minstrel Way, Suite 300 Columbia, MD 21045
Licensee/Certificate Holder contact	Chris Lloyd
Docket No.	72-1021
Inspection Report No.	2009-202
Inspection Date(s)	November 2 – 5, 2009
Inspection Location(s)	Transnuclear, Inc. Headquarters
Inspectors/Observers	Rob Temps, Earl Love, Jim Pearson, Paul Bell, Jennifer Davis
Summary of Findings and Actions	This inspection was a routine periodic assessment of TN's Quality Assurance (QA) program implementation at their corporate office. Follow-up to fabrication oversight issues identified in previous NRC inspections, and a 10 CFR Part 21 report issued by TN on October 30, 2009, was included in the inspection scope. Overall, the team assessed that TN was properly implementing their QA program with regard to QA Management and Design Controls. The team noted that TN has implemented, or plans to implement, substantive changes to their QA implementing procedures. TN has taken, and plans to take, actions to improve fabrication oversight, corrective action tracking and trending, and increase staffing in a number of areas. The effectiveness of these actions will be assessed in future corporate and fabrication inspections.
Lead Inspector Signature/Date	Rob Temps 11/18/09
Inspector Notes Approval Branch Chief Signature/Date	David Pstrak 11/19/09

INSPECTOR NOTES: APPLICABLE SECTIONS FROM 60851 WERE PERFORMED DURING THE INSPECTION WITH RESULTS DOCUMENTED BELOW UNDER THE BASIC HEADINGS OUTLINED IN NUREG-6314:

Inspection Background

NRC's last corporate inspections of Transnuclear, Inc. (TN) were performed in 2005. Since then, TN consolidated all corporate activities to their Columbia, MD, office complex and the Hawthorne, NY, and Fremont, CA, locations were closed. Also, PacTec, previously under TN's Quality Assurance (QA) program, was spun off into AREVA Federal Services LLC, which now operates under its own NRC Part 71 QA program approval.

From 2005 to present, NRC has performed TN cask fabrication inspections at the GE-Hitachi facility in the United States, ENSA in Spain, and Hitachi-Zosen in Japan. Inspections at GE-Hitachi and ENSA in 2007 and 2008 revealed some weaknesses in TN's oversight of fabrication activities. In their response to Notices of Violation issued in the associated inspection reports, TN described actions they had taken, and planned to take, to address the NRC's concern in this area.

This inspection was a routine periodic assessment of TN's QA program implementation at their corporate office. Follow-up to the oversight issue discussed above as well as a 10 CFR Part 21 report issued by TN on October 30, 2009, was included in the inspection scope.

1.0 Management Controls

Quality Assurance Policy

The team reviewed the TN Quality Assurance Program Description Manual (QAPDM) and various Transnuclear Implementing Procedures (TIPs). The team interviewed TN personnel in regard to QA processes and organizational effectiveness. The team reviewed TN's training matrix and training records for a sample of TN personnel across the QA, engineering, and project management groups. The team noted that for each sample, the completed training records and matrix matched those required under TIP 2.1, "Indoctrination and Training," and Appendix A, "Indoctrination Requirements Matrix."

The team discussed actions that TN has taken, or plans to take, with regard to fabrication oversight issues discussed in previous NRC fabrication inspections. The team noted that TN is increasing staffing in the QA department and that substantial changes are being implemented with regard to oversight methods and the roles and responsibilities of QA and engineering project personnel involved with fabrication activities. An assessment of the effectiveness of these changes will be performed in future NRC fabrication inspections.

Nonconformance and Corrective Action Controls

The team reviewed the various TIPs that TN uses to address the documentation, tracking and resolution of nonconforming conditions and conditions adverse to quality. Procedures reviewed included:

TIP 7.13, "Supplier Findings and Corrective Actions"

TIP 15.1, "Reporting of Defects and Noncompliances"
TIP 15.2, "Control of Nonconforming Items"
TIP 15.3, "Review of Supplier Nonconformances"
TIP 16.1, "Corrective Action"
TIP 16.2, "Corrective Action Review Committee"

The team reviewed a representative sampling of reports from the various reporting mechanisms including nonconformance reports (NCRs), corrective action reports (CARs), supplier finding reports (SFRs) and supplier generated nonconformance reports requiring TN approval. The reports documented various issues related to 10 CFR Part 72 activities performed by TN as well as by its contractors/vendors. The team concluded that TN was using the various processes to properly document and address quality issues in a timely manner. Resolution of issues was appropriate to the extent and nature of the nonconformance or condition adverse to quality and timeliness of responses is being tracked and trended. Overall, no concerns were identified by the team in this area.

The team noted that TN has recently implemented substantive changes to the various reporting processes. Changes include enhanced methods for tracking and trending of issues identified in the various reporting systems to provide meaningful data and insights on trends that will better inform TN management decision making, and enhancements to the Corrective Action Review Committee (CARC) structure and method of review.

The team also reviewed TN's compliance to the posting and reporting requirements of 10 CFR Part 21. TN procedure, TIP 15.1, used for evaluating issues against Part 21 for reportability, was reviewed along with several evaluations performed utilizing TIP 15.1. The team assessed that the Part 21 evaluations were comprehensive and technically sound. Overall, no concerns were identified with regard to TN's process for complying with Part 21 reporting requirements.

The team reviewed a Part 21 report (E-28731) TN submitted to the NRC on October 30, 2009, regarding unsubstantiated certified material test reports (CMTRs) for certain small parts supplied by a Korean vendor and utilized in dry cask storage system fabrication. The team reviewed TN CAR 2009-086, that was written to document the issue upon discovery, as well as extensive documentation supporting the Part 21 evaluation. The team concluded that TN's response to the issue was timely and comprehensive and that appropriate actions were taken to determine how the issue occurred, the extent of affected components, and technical impact of the non-conforming materials on delivered equipment. Other corrective actions were pending at the time of the inspection.

Documentation Controls

The team reviewed applicable sections of the TN QAPDM and TIPs related to document controls and records management. The team determined, based on discussions, observation of activities, and review of documents, that adequate document control and records management controls were in place. No concerns were noted.

Audit Program

The team reviewed TN's 2009 internal audit schedule which included internal surveillances. The scheduling of audits was in conformance with TN's QAPDM section 18 and TIP 18.1,

"Internal Audits." The team reviewed 3 (out of 10) lead auditor certifications and determined that their certifications had been performed in accordance with the requirements of QAPDM section 18, step 18.4, and TIP 2.2, "Qualification and Certification of Audit Personnel."

The team reviewed TIP 7.1, "Supplier Evaluation," and a sample of completed supplier evaluation forms. From its review of the supplier evaluations, the team verified that the suppliers were correctly categorized and represented on the AREVA/TN Approved Suppliers List. The team verified the status of CARs found in the audits and supplier evaluations reviewed and noted that a large majority the CARs were closed in a timely manner, while actions on others were timely, but not yet closed. The team reviewed TIP 7.3, "Dedication of Commercial Grade Items," as well as several purchase orders and commercial grade dedication evaluations and determined they were in accordance with the TIP.

Overall, no concerns were identified with regard to TN's internal and external audit programs.

2.0 Design Controls (Development and Modification)

The team reviewed the TN QAPDM and various TIPs that address design development and modification activities. The team reviewed TN activities related to transportable dry cask storage systems specific to the Standardized and HD NUHOMS® Horizontal Modular Storage Systems as well as the TN-68 Dry Storage Cask. The team interviewed various TN project personnel and reviewed select portions of the TN QAPDM as well as Design Control portions of the TN implementing procedures. The following TIPs were reviewed:

TIP 2.5, "Order Entry and Project Planning"
TIP 3.1, "Design Control"
TIP 3.5, "Licensing Review"
TIP 4.1, "Procurement Document Control"
TIP 7.7, "Review of Supplier Documentation"

The team reviewed a Project Plan applicable to the Crystal River Nuclear Power Plant for use of the NUHOMS® 32PTH-1 and noted that technical and quality roles and responsibilities relating to design and licensing activities were properly defined as required by TIP 2.5.

The team reviewed TN Purchase Orders (POs) P2009-0143 and 2008-0154, both classified as "At-Risk" (subject to approval of Amendment 10 to NUHOMS Certificate of Compliance No. 72-1004), issued to Hitachi Zosen for 32PTH-1, Type 2, and NUHOMS 61BTH Type 2, canisters respectively. The team noted that the POs were appropriately processed in accordance with TIPs 4.1 and TIP 3.1. TN's process for performing "At Risk" work in relation to maintaining proper design and procurement controls was assessed to be adequate. No concerns were identified.

The team reviewed TN Design Report (DR) NUH32PTH1.0111 and draft DR NUH61BTH-0111, and determined that both DRs adequately documented the design criteria and basis/qualification for the applicable system design. The team reviewed Design Change Request (DCR) NUH32PTH1-12, that was initiated to incorporate lessons learned from previously fabricated canisters, and Licensing Review (LR) 721004-664, for the purpose of reviewing proposed activities affecting the open NUH32PTH1 application (Amendment 10 to

NUHOMS® Certificate of Compliance No. 72-1004) for 10 CFR 72 licensing. No concerns were noted.

The team reviewed a sample of eleven DCRs, pertaining to projects for various reactor licensees, for completeness and accuracy against TIP 3.1 design control requirements. The review included an assessment of TN's licensing review process initiated as a result of DCRs as controlled by TIP 3.5. The team determined these activities were performed in compliance with the applicable TIPs and it was noted that personnel assigned responsibility for preparing, verifying, reviewing and approving licensing reviews were appropriately trained, in accordance with TIP 3.5, prior to performing activities. No concerns were noted.

The team reviewed selected drawings and records to verify that the procurement specifications for materials, equipment, and services received by TN met the design requirements. For three different reactor licensee projects, the team reviewed TN's Certificate of Compliance (CoC) related to the NUHOMS® 61BTH and 32PTH canisters in support of fabrication, assembly, and testing activities to assure compliance with approved methods, procedures, and specifications. For one project, (Project No. 10494) the team noted TN's acceptance of a fabricator proposed alternate weld configuration regarding basket rail components. The applicable CoC drawing provides for alternate weld configurations with TN approval. The team noted that TIP 7.7 is used by TN for processing such requests; however, the team identified that TIP 7.7 did not provide clear and consistent instructions on the processing of such requests. TN initiated CAR 2009-107 to document the observation and to enhance the review process and procedural controls in TIP 7.7. The team did note other examples where requests for changes permitted by drawings were adequately processed according to TIP 7.7.

Overall, the team assessed that TN was effectively implementing procedures governing Project Planning, Design Development, Design Input, Design Verification and Design Drawing Configuration Control.