



SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. CERTIFICATE/QUALITY ASSURANCE PROGRAM (QAP) HOLDER:

AREVA Inc./AREVA TN Americas
7135 Minstrel Way Suite 300
Columbia, MD 21045

2. NRC/REGIONAL OFFICE

Headquarters
U. S. Nuclear Regulatory Commission
Mail Stop 3WFN 14C-28
Washington, DC 20555-0001

REPORT NUMBER(S) 71-0250/2014-201

3. CERTIFICATE/QAP DOCKET NUMBER(S)

QAP 71-0250

4. INSPECTION LOCATION

Richland, WA

5. DATE(S) OF INSPECTION

04/28 - 05/02/2014

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):


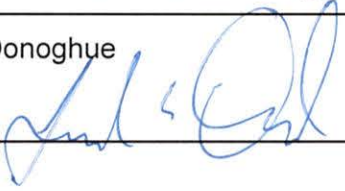
- ☐ 4. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.
(Violations 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	Tim Kindelberger		5/20/14
NRC INSPECTOR	Rob Temps		5/21/14
BRANCH CHIEF	Joe Donoghue		5/22/14

INSPECTOR NOTES COVER SHEET

Licensee/Certificate Holder (name and address)	AREVA Inc. 7135 Minstrel Way, Suite 300 Columbia, MD 21045
Licensee/Certificate Holder contact	Tim Kindelberger
Docket No.	71-0250
Inspection Report No.	71-0250/2014-201
Inspection Date(s)	April 28 – May 2, 2014
Inspection Location(s)	Richland, WA
Inspectors/Observers	Rob Temps, Jon Woodfield, Jeremy Tapp
Summary of Findings and Actions	<p>This inspection was performed to determine and assess the process by which three Certificates of Compliance (CoCs) held by AREVA NP Inc. (ANP) were transferred to Transnuclear Inc. (TN) along with physical ownership of several hundred packagings. Maintenance of the TN owned packagings, subcontracted to ANP, was also reviewed.</p> <p>The team noted various observations during the inspection. TN and ANP captured them in corrective action reports (CARs) as described in the attached inspector notes.</p> <p>Overall, the team assessed that the process TN undertook to take over the CoCs and packaging ownership was performed in a systematic and thorough manner. Maintenance and repair activities on the TN owned packagings were also determined to be good. No safety concerns were identified as a result of the inspection.</p>
Lead Inspector Signature/Date	Rob Temps  5/22/14
Inspector Notes Approval Acting Branch Chief Signature/Date	Joe Donoghue  May 22 2014

Inspection Background

Over the last several years, an effort was put in place to have three Certificates of Compliance (CoCs) held by AREVA NP Inc. (ANP) transferred to Transnuclear, Inc. (TN) along with physical ownership of several hundred packagings associated with the transferred CoCs, as well as other packaging CoCs. As of the date of the inspection, the transfers had been completed. The CoCs transferred from ANP to TN were:

MAP-12	CoC 9319
ANF-250	CoC 9217
SP-1, 2, 3	CoC 9248

TN maintains and staffs an office at the Richland, WA, ANP facility. The TN staff developed, and worked with ANP personnel to facilitate, the CoC transfer and packaging inspection process.

NOTE: Due to a reorganization that was effected in January 2014, the entities formally known as AREVA NP Inc. and Transnuclear Inc. are now called AREVA Inc. The pre-reorganization names are used in these inspector notes for ease of reading in distinguishing those activities that were carried out by each of the entities, ANP and TN, prior to the reorganization.

Inspection Purpose

The overall purpose of the inspection was to assess TN's compliance with 10 CFR Part 71 for the transfer of CoCs and sub-contracting of packaging maintenance activities. Specific inspection activities included:

1. Determine and assess TN's process to have the CoCs transferred to their name from ANP. Determine how design basis information was transferred, and is being maintained, along with any packaging fabrication and any other lifetime records. As TN physically inspected all packagings before acceptance for use, determine and assess the inspection criteria that TN developed and how the results were documented and any unsatisfactory inspection results addressed.
2. Perform a detailed review of each packaging's Safety Analysis Report (SAR) Chapter 8 maintenance requirements against the ANP maintenance procedures. Review a selection of maintenance records for each of the three packaging CoCs. Review TN's qualification of ANP to perform packaging maintenance and determine what level of oversight is being provided between audits.

1.0 CoC Transfer and Packaging Inspection Process

The team reviewed the procedures, documents/reports created from those procedures, and other related documents associated with the transfer of the MAP-12, ANF-250, and SP-1, 2, 3 packaging CoCs and ownership to TN from ANP. The documents included procedures for evaluating the packagings for purchase, business agreement documents, the project plan for packaging evaluation and purchase, procedures for package control after purchase, and packaging reports. The team also reviewed 10 CFR 71.95 Reports where TN provided

engineering/design control services for packaging issues as the current CoC holder. The team specifically reviewed the following documents associated with the transfer of the packaging CoCs and 10 CFR 71.95 reporting requirements:

- Project Plan for Project 21004 on Form 2.5-1, latest update April 18, 2012
- PTIP 21004-7.1, "Fuel Packaging Due Diligence," Revision 1 October 25, 2010
- PTIP 21004-7.2, "Fuel Packaging Acceptance," Revision 4 December 5, 2012
- PTIP 21004-7.3, "Fuel Packaging Transition to Lease Agreement," Revision 2 December 5, 2012
- E-30069, "AREVA NP Fuel Packaging Due Diligence Report MAP-12 Packages," October 22, 2010
- E-30070, "AREVA NP Fuel Packaging Due Diligence Report ANF-250 Packages," Revision 1, October 28, 2010
- E-30073, "AREVA NP Fuel Packaging Due Diligence Report SP-1, 2 & 3 Packages," October 22, 2010
- E-31574, "MAP-12 Packaging Acceptance Determination Summary Report," Revision 1, September 13, 2012
- E-31855, "ANF-250 Packaging Acceptance Determination Summary Report," Revision 1, March 28, 2013
- E-31850, "SP-1, 2, 3 Packaging Acceptance Determination Summary Report," Revision 1, March 28, 2013
- Packaging Transition Review Campaign, "MAP-12's - SAR," Reviewed and signed April 10, 2012
- Packaging Transition Review Campaign, "MAP-12's - Protocol," Reviewed and signed April 10, 2012
- Packaging Transition Review Campaign, "ANF-250 - SAR," Reviewed and signed June 7, 2012
- Packaging Transition Review Campaign, "SP-1, SP-2 and SP-3 SAR," Reviewed and signed June 7, 2012
- Packaging Release Form 21004-7.3-1 for MAP-12 Packaging, September 17, 2012
- Regional Shipping Operations Protocol between AREVA NP, Inc, Richland and Transnuclear Inc, for Transport and Packaging Services in Accordance with Umbrella Agreement DCC-10-00021436, July 29, 2010-07-30; Protocol Revision 1, August 10, 2011
- AMP 8.3, "Packaging Tracking and Status," Revision 1, September 18, 2013
- Packaging Release List Form AMP 8.3-1 Log Number: PRL-2014-017 for Model Number MAP-12, March 6, 2014
- Packaging Inventory Assessment Form AMP 8.3-2 Log Number: PRL-2013-074 for Model Number MAP-12, November 8, 2013
- AMP 10.1, "Packaging Oversight," Revision 0, April 3, 2013
- Requirement Compliance Matrix Form AMP 10.1-1 Log Number: PRL-2013-080 for Model Number MAP-12, February 19, 2014
- AMP 15.1, "Packaging Repair and Modification," Revision 0, August 31, 2012
- Packaging Evaluation Form AMP 15.1-1 Log Number: PRL-2013-056 for Model Number ANF-250, September 18, 2013

- 10 CFR 71.95 Event Report Letter – From Areva to NRC, October 2, 2013 - Subject: Report of Non-Compliance with Conditions in Certificate of Compliance 9217 for the Model ANF-250 Licensed Shipping Container (Over-torqueing of Inner and Outer Lid Fasteners); AREVA NP Inc. Richland, WA Facility
- 10 CFR 71.95 Event Report Letter – From Areva to NRC, October 2, 2013 - Subject: ANF-250 Licensed Shipping Container (Non-Compliant Inner Lid Studs); AREVA NP Inc. Richland, WA Facility

Several years ago, a business decision was made to transfer the packaging ownership and CoC holder responsibilities for the MAP-12, ANF-250, and SP-1, 2, 3 to TN from ANP. TN performed due diligence for the planned CoC transfer and physical possession (through purchase) of the MAP-12, ANF-250, and SP-1, 2, 3 packagings. To determine the scope of the packagings to purchase, TN performed cursory inspections of the actual packagings and reviews of the associated design, fabrication, maintenance, and shipping records. TN used their own NRC-approved Part 71 Quality Assurance Program (QAP) to develop new procedures and utilize existing TN procedures to implement the purchase of the qualified (acceptable physical condition and documentation records) MAP-12, ANF-250, and SP-1, 2, 3 packagings.

The team reviewed the TN project plan for implementing the packaging scoping review, physical condition review, documentation record reviews, and purchasing. The plan was developed in accordance with TN's Transnuclear Implementing Procedure (TIP) 2.5. The team assessed that the project plan was comprehensive and addressed or referenced business agreements between TN and ANP, scope of packaging reviews, roles and responsibilities of project team members from ANP and TN, schedule, names of project team members, function of an Operations Review Team (ORT) and its members, and procedures developed specifically for the project.

The team determined that the project had three associated implementing procedures. Procedure PTIP 21004-7.1 was utilized to provide guidance in performing an initial scoping to fully understand the status of the individual packagings and associated documentation for the three package types. Procedure PTIP 21004-7.2 was utilized to provide guidance in performing a detailed evaluation of each individual packaging's physical condition and documentation records as being adequate for packaging acceptance and purchase. Lastly, procedure PTIP 21004-7.3 was utilized to provide guidance on releasing and controlling the individual packagings that were accepted and purchased by TN back to ANP for their use. The team reviewed all three procedures and the criteria for packaging acceptance/rejection and checklist forms included within. The team also reviewed the MAP-12, ANF-250, and SP-1, 2, 3 packaging reports generated from the checklist forms and determined they were thorough with details for acceptance and rejection when applicable. The team did not identify any concerns with the TN packaging evaluations performed during the procurement process.

The team noted that a representative of ANP and TN were on the ORT that reviewed ANP packaging operations and maintenance procedures for CoC and SAR requirement compliance. The team assessed that this was an effective review approach that resulted in the revision of several ANP operations and maintenance procedures where compliance was not clear or was lacking.

After TN obtained legal ownership of the actual packagings and became the holder of the associated CoCs, new Asset Management Procedures (AMPs) were implemented to manage

the packagings. For example, AMP 8.3 was developed for the tracking of TN owned packaging locations and their operational status. The procedure contains forms for identifying released and non-released packagings for use. AMP 10.1 was issued for performing packaging oversight of TN owned packagings to ensure they are operated and maintained in conformance with the governing regulatory requirements for their intended use. The procedure contains checklist forms to perform the evaluations. AMP 15.1 was developed for performing evaluations and approving repairs and modification activities for TN owned packagings. Packaging repair and modifications performed on TN owned packagings are reviewed to ensure compliance with technical and licensing requirements. Forms for performing the evaluation are in the procedure.

The team reviewed the new AMPs and the current packaging reports generated using the forms from the procedures, as applicable, and assessed them as being acceptable for tracking packagings and maintaining compliance with licensing requirements.

As holder of the packaging CoCs, TN is responsible for design basis compliance and design change control. The team asked if any new TN QAP implementing procedures (TIPs) for design engineering/design control had been created due to becoming the CoC holder for the three packagings. TN representatives stated that no new TIPs were required and the current TIPs in place would apply to the design engineering/design control of the three transferred CoCs.

The team reviewed two recent 10 CFR 71.95 reports sent to the NRC for the ANF-250 packaging to evaluate the coordination between ANP and TN's headquarters engineering and design control organization. The team assessed that coordination between ANP and TN engineering was adequate, with TN engineering providing calculations and engineering evaluations to support resolution of the 71.95 issues. The TN ANP site Packaging Specialist has access to the TN and ANP document control systems and was able to demonstrate through the respective computer based electronic document control systems that the documents used to resolve the two issues were in the proper record systems.

The team determined that the Asset Manager's/Packaging Specialist's role is critical to the working relationship between TN as the CoC holder (responsible for design basis/design control) and ANP as user/operator/maintainer of the packagings. The TN ANP site Packaging Specialist is the liaison between the user (ANP) and CoC holder (TN) for maintaining license compliance as defined in the AMPs discussed previously. The significance of this role was demonstrated in the coordination required to resolve the two 71.95 issues.

Overall, the team assessed that the current TN program and procedures in place were adequate for maintaining the design basis and design control of the MAP-12, ANF-250, and SP-1, 2, 3 packagings. The team did not identify any significant safety issues and had no concerns.

2.0 Document Controls

The team reviewed the TN and ANP document control procedures associated with the MAP-12, ANF-250, and SP-1, 2, 3 packagings. The team specifically reviewed the following procedures associated with document control:

- AMP 17.1, "Packaging Documentation," Revision 0, August 31, 2012 (TN)

- Standard Operating Procedure (SOP) 40894, "Quality Record and Document Storage," Version 10.0 (ANP)

Historically, ANP was the CoC holder and user of the MAP-12, ANF-250, and SP-1, 2, 3 packagings and was responsible for all associated records. When TN became the CoC holder for the packagings, it developed AMP 17.1 that establishes the division of responsibilities and requirements for the retention of packaging records associated with TN owned packaging. The procedure contains a matrix of the types of records associated with packagings and the entity responsible for retaining the records. The matrix in AMP 17.1 shows TN being responsible for the CoC, SAR, package history, and other documents generated by TN. The package user retains copies of the CoC, SAR chapters 7 & 8, and licensing drawings. In addition, the package user retains records of package maintenance, parts, opening procedures, and other documents internally generated. Since records had to be transferred from ANP's document control system to TN's document control system, the team asked the TN ANP site Packaging Specialist (PS) to demonstrate the ability to retrieve packaging documents from TN's records system (in Richland). The PS was able to retrieve the SAR and CoC for the three packagings on his computer. As discussed above in design control, the PS was also able to find the TN documents associated with the 71.95 issue resolutions. The PS was not able to call up the packaging licensing drawings outside the SAR; however, the PS stated that not all packaging design documents had been migrated from ANP's document control to the TN system. The PS stated that the migration was ongoing and that as design basis documents were needed by TN they would be transferred from ANP to TN. The PS stated that due to the close working relationship between ANP and TN that obtaining any needed documents by TN would not be a problem and could be performed in a timely manner. The team assessed that the records access demonstrations and PS explanations to be acceptable.

In the business agreement documents between ANP and TN, it is stated that ANP would have a similar procedure to address record retention. Although not new, ANP's document control record retention document is SOP 40894. The team randomly selected several packaging identifications and requested ANP personnel to demonstrate retrievability of the associated packaging records they were responsible for. The team observed that record retrievability for the selected packagings was difficult and time consuming; however, the requested records were able to be retrieved.

The team identified observations with regard to ANP's records retention requirements in satellite locations and for Document Control Custodians annual records review. ANP issued CR 2014-3341-FA to document and address the team's observations.

The team concluded that TN satisfactorily demonstrated document control quality record retrievability and although difficult, ANP was also able to demonstrate quality record retrievability. The team had no significant concerns; two observations with ANP's records procedure compliance, were documented and addressed through ANP's corrective action program. Overall, the team determined that adequate document control and records management exists at TN and ANP for the three packaging CoCs.

3.0 Packaging Maintenance and Repair Activities

The team reviewed packaging maintenance and repair activities conducted on the TN-owned packagings by ANP at the Richland, WA, location.

The team determined that TN placed ANP on their approved suppliers list through conduct of supplier audits. The team reviewed the most recent audit, Supplier Audit SA-2013-03, conducted by TN in April 2013. The audit was detailed and contained findings that were addressed through issuance of Supplier Finding Reports (SFRs) as well as observations. The team noted that the audit discussed two technical issues identified for the MAP-12 packaging; one related to the shelf life of a gasket adhesive and the other related to environmental storage requirements for braided gasket material. The first issue was addressed through issuance of SFR 2013-039; however, the team noted that the audit report did not state how the second issue was addressed. The team confirmed with TN personnel that the second audit issue had not been captured in an SFR nor entered in some other form into TN's corrective action system for resolution. TN issued Corrective Action Report (CAR) 2014-100 to document this observation. During the inspection, TN supplied the team with information that indicated that the braided gasket material would not be adversely degraded under normally expected storage conditions.

For each of the three CoCs that were transferred to TN, the team reviewed the maintenance requirements of Chapter 8 of each associated SAR against the ANP maintenance procedures. The team noted that detailed Standard Operating Procedures (SOPs) and Standard Work Instructions (SWIs) were developed by ANP for package maintenance activities. The team noted that the maintenance procedures incorporated and expanded upon the SAR Chapter 8 requirements. However, the team did note some instances in which the SOPs and SWIs for all three CoCs did not explicitly contain inspection and repair criteria from the SAR. The team discussed this observation with ANP personnel and was directed to SOP-40072, "Shipping Container Maintenance and Rework," that ANP stated is used in parallel with the other maintenance SOPs and SWIs. The team determined that SOP-40072 contains detailed matrices for numerous package CoCs with a listing of unacceptable conditions and required/suggested maintenance or rework. For the three CoCs of interest, the team noted that while the SOP-40072 matrices contained the omitted SAR inspection and repair criteria, the instructions for the use of SOP-40072 did not explicitly state how and when the SOP is used in parallel with the other package maintenance and inspection procedures. ANP issued CR 2014-3316-FA to document and address the team's observation.

At the time of the inspection, no maintenance or repair activities were ongoing for the three CoCs of interest. Therefore, the team reviewed a sampling of maintenance and repair records associated with the three CoCs.

The team reviewed TN's activities regarding recent maintenance and inspections of the MAP-12 packaging. In December 2012, ANP, while performing inspections for TN, identified buckling and/or small cracks in the outer sheet metal of the base and lid spacers for a number of MAP-12 packagings. For the packagings that only had small cracks, repairs were performed by ANP in Richland. For the packagings that had both buckling and small cracks, repairs were performed at Columbiana Hi Tech (CHT) in Greensboro, NC. The team reviewed the repair documentation for a sampling of packages that were repaired by either ANP or CHT. The team verified that the repairs and documentation were performed in accordance with the applicable inspection and maintenance procedures, maintenance orders, and non-standard rework procedure, including but not limited to SOP-40668, "Visual Inspection of Shipping Container Welds," and SOP-40829, "Maintenance Weld Repairs on Licensed Shipping Containers." The team verified that the welders performing the repairs at both ANP and CHT were qualified for the specific type of weld performed, and the weld filler metal used at CHT was also certified and appropriate for the

type of weld being performed. The team noted that the weld procedure specification was adequate and in accordance with the non-standard rework procedure requirements for repairs performed at ANP. In addition, the team found that for the packagings reviewed, that all cracks and buckling identified in the original visual examination were documented as being repaired and acceptable in the final visual examination. Overall, the team assessed that the weld and buckling repairs were performed satisfactorily and in accordance with the applicable site procedures.

The team reviewed maintenance and inspection records for a sampling of SP-1, 2, 3 inner and outer shipping containers that were currently available for use. The maintenance records reviewed consisted of either a re-use conformance report or a corrective maintenance order for repair work to be performed. The team determined that for the records reviewed, the shipping container maintenance and inspection activities were performed as required along with adequate completion of the associated paperwork.