



Global Nuclear Fuel

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April 21, 2006

ATTN: Document Control Desk
Director, Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555-0001

Subject: 10 CFR 71.95 - 60-Day Report – Missing Welds

Reference: NRC Certificate of Compliance (COC) 9309, Docket 71-9309

Dear Sir,

Global Nuclear Fuel, Americas – LLC (GNF-A) in Wilmington, NC hereby submits a report pursuant to 10CFR 71.95(a)(3) for a condition found involving the RAJ-II package that we believe was not in conformance with the above referenced Certificate of Compliance (CoC).

Our responses to the italicized requirements of 10CFR 71.95 are as follows:

(a) The licensee, after requesting the certificate holder's input, shall submit a written report to the Commission of -

GNF-A is the certificate holder.

(1) Instances in which there is a significant reduction in the effectiveness of any NRC-approved Type B or Type AF packaging during use; or

There was no indication of a reduction in effectiveness of the RAJ-II packaging.

NMSS01

(2) Details of any defects with safety significance in any NRC-approved Type B or fissile material packaging, after first use.

There was no indication of defects with safety significance in the RAJ-II packaging.

(3) Instances in which the conditions of approval in the Certificate of Compliance were not observed in making a shipment.

Condition 5.(a)(3) of NRC's CoC 9309 identifies the approved drawings for the RAJ-II. On Page 2 of Drawing 105E3738, Rev 6, location B9, item 17, there are two fillet welds on the underside of the lid tightening boss of the outer container. The initial intended purpose of these fillet welds was to hold the tightening boss in place while the all-around weld was being applied, however, a fixture was actually used during fabrication and the fillet welds added later simply to comply with the drawing requirements. We discovered the welds were missing on one tightening boss on RAJ-II serial number RA-1006. Although the welds are not structurally significant, absence of the weld is not consistent with our licensing drawing.

(b) The licensee shall submit a written report to the Commission of instances in which the conditions in the certificate of compliance were not followed during a shipment.

This is the written report.

(c) Each licensee shall submit, in accordance with § 71.1, a written report required by paragraph (a) or (b) of this section within 60 days of the event or discovery of the event. The licensee shall also provide a copy of each report submitted to the NRC to the applicable certificate holder. Written reports prepared under other regulations may be submitted to fulfill this requirement if the reports contain all the necessary information, and the appropriate distribution is made. Using an appropriate method listed in § 71.1(a), the licensee shall report to: ATTN: Document Control Desk, Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards. These written reports must include the following:

This report is being submitted to the NRC, in accordance with 10CFR 71.95(a)(3), within 60 days of the event.

(1) A brief abstract describing the major occurrences during the event, including all component or system failures that contributed to the event and significant corrective action taken or planned to prevent recurrence.

On 3/8/06, we discovered two missing fillet welds on the underside of the lid-tightening bosses of the outer container of the RAJ-II packaging S/N RA-1006. No component failed. The situation was a result of the vendor not applying these welds and their inspection plan did not detect these particular welds missing. Although the vendor did not believe the situation affected our fleet, we initiated additional inspections on the initial fifteen RAJ-II containers we had received. We found one container with the missing welds. To prevent recurrence, the vendor, Columbiana Hi Tech, LLC (CHT), Greensboro, NC developed training sessions with their employees, and developed a checklist for their inspectors to use in looking for these and other welds. Internally, we have developed inspection plans to specifically look for these welds before containers are loaded. If we find this condition, the container(s) will be returned to CHT for rework to meet the drawing.

(2) A clear, specific, narrative description of the event that occurred so that knowledgeable readers conversant with the requirements of part 71, but not familiar with the design of the packaging, can understand the complete event. The narrative description must include the following specific information as appropriate for the particular event

(i) Status of components or systems that were inoperable at the start of the event and that contributed to the event;

(ii) Dates and approximate times of occurrences;

(iii) The cause of each component or system failure or personnel error, if known;

(iv) The failure mode, mechanism, and effect of each failed component, if known;

(v) A list of systems or secondary functions that were also affected for failures of components with multiple functions;

(vi) The method of discovery of each component or system failure or procedural error;

(vii) For each human performance-related root cause, a discussion of the cause(s) and circumstances;

(viii) The manufacturer and model number (or other identification) of each component that failed during the event; and

(ix) For events occurring during use of a packaging, the quantities and chemical and physical form(s) of the package contents.

(3) An assessment of the safety consequences and implications of the event. This assessment must include the availability of other systems or components that could have performed the same function as the components and systems that failed during the event.

(4) A description of any corrective actions planned as a result of the event, including the means employed to repair any defects, and actions taken to reduce the probability of similar events occurring in the future.

(5) Reference to any previous similar events involving the same packaging that are known to the licensee or certificate holder.

(6) The name and telephone number of a person within the licensee's organization who is knowledgeable about the event and can provide additional information.

(7) The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name.

(d) Report legibility. The reports submitted by licensees and/or certificate holders under this section must be of sufficient quality to permit reproduction and micrographic processing.

The RAJ-II is a rectangular stainless steel box approximately 2.5 feet high by 2.5 feet wide by 17 feet long. It contains a stainless steel inner container that may hold up to two BWR fuel assemblies. Both the inner and the outer have lids that are bolted down.

The two missing welds are located under the lid-tightening boss of the outer container. A helisert is inside this boss. These two fillet welds were originally intended to hold the lid-tightening boss in place while an all-around weld was applied. Currently, a fixture is used to hold the boss in place during the welding process and the fillet welds added afterward to meet the drawing requirements.

On 10/4/05, GNF-A was advised by Framatome ANP of certain weld problems associated with their RAJ-II packages manufactured by CHT in 2004 (FANP 71.95 Report, 12/9/05). In December 2005, GNF-A was contacted by CHT to discuss problems on welds of similar packages manufactured in 2004, however, CHT indicated that they did not believe any GNF-A packages would have been effected. This involved 8 packages manufactured between 11/17/2004 and 12/28/2004. The condition was reported to CHT on 9/12/2005 and they were issued a CAR because of the problem on 9/14/2005. CHT believed that high overtime and the newness of the design, coupled with the welding sequence and travelers were the root cause of the problem. The overtime situation had been resolved in early February 2005 and the welding sequence and travelers modified in mid-February 2005. As a result of the CAR, CHT provided formal training to their inspectors 9/20/2005 and again 10/13/2005 when weld specific checklists were implemented closing the CAR.

Manufacture of GNF-A packages began at CHT, with the first of these welds being done 3/11/2005 with S/N RA-1001. In reviewing the timeline of manufacturing and the training and procedural changes, GNF-A determined that the packages fabricated through S/N RA-1250 were manufactured during the period that some of the final corrective actions were being implemented by CHT. As a precautionary measure GNF-A decided to put an inspection in place for the S/N RA-1001 – 1015 as they passed through refurbishment to confirm there was no problem. In addition, during the regular 12/1/2005 source inspection at CHT, GNF-A specifically checked these welds on approximately 30 containers and found all to be acceptable (all these packages were above S/N RA-1250).

It was during the inspection of the first 15 units that the defect was observed in RA-1006 on 3/8/06. RA-1002, 1007, 1011, 1013 and 1015 had been previously inspected and no defects had been found in these. RA-1006 has been used in two shipments. GNF-A has not made any shipments since the discovery of the missing weld. The last shipment of RAJ-II packages was made 3/7/06.

Based on the finding in RA-1006, GNF-A has begun checking RAJ-II packages for this weld condition. To date there have been 119 packages checked and RA-1006 has been the only defect. In the population of the first 250 packages, 83 have been checked and the only defect is RA-1006. Based on this information we have concluded that the defect in RA-1006 was a limited random occurrence and there is no reason to believe that any additional packages in the GNF-A fleet manufactured at CHT contains a defect. In addition, the weld in question, while indicated on the licensing drawing, is a manufacturing aid and in no way plays a safety significant role in the performance of the package.

We are continuing to check packages from the entire CHT fleet (not just the first 250) as they become available for inspection and will add any missing welds that are found to put them in compliance with the licensing drawing. In addition, we have upcoming fuel shipments that are

packed in combinations of packages some of which have been inspected and some not. We do not plan to unpack packages that have not been inspected because the data indicates that there is no widespread problem with this non-safety significant weld and the added exposure for unpack-repack would not be ALARA.

Framatome ANP reported a similar occurrence to your office on 12/9/05. However, the weld issue at that time was somewhat different.

I am the individual knowledgeable about this event and can provide additional information as needed.

If you wish to contact me, please call me on (910) 675-5656.

Sincerely,

Global Nuclear Fuel – Americas, LLC

A handwritten signature in cursive script, appearing to read "C. M. Vaughan".

C. M. Vaughan, Manager
Facility Licensing

cc: CMV-06-029
Dr. W. Travers, NRC Region II, Atlanta, GA
D. Seymour, NRC Region II, Atlanta, GA
N. Baker, NRC HQ, Washington, DC
R. Montgomery, Framatome ANP