

FEB 09 2018

Attn: Document Control Desk  
Director, Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Louisiana Energy Services, LLC  
License Number: SNM-2010  
NRC Docket Number: 70-3103

Subject: 10 CFR 71.95, 60 Day Report – Certificate of Compliance Conditions Not Followed

On December 12, 2017, Louisiana Energy Services, d.b.a, URENCO USA (UUSA), self-identified a non-compliance to 30B cylinder transport criteria set forth in ANSI N14.1. In accordance with 10 CFR 71.95(a)(3), UUSA is providing this written report. Enclosure 1 contains this report.

If you have any questions, please contact Wyatt Padgett, Licensing and Performance Assessment Manager, at 575-394-5257.

Respectfully,



Stephen Cowne  
Chief Nuclear Officer and Head of Operations

Enclosure: 1) 10 CFR 71.95 Report

NM5524

LES-18-014-NRC

cc: w/ enclosure

Scott Murray  
Licensing and Regulatory Affairs Manager  
Global Nuclear Fuel – Americas  
[Scott.Murray@ge.com](mailto:Scott.Murray@ge.com)

Timothy Tate  
Licensing and Regulatory Affairs Manager  
Framatome (formerly AREVA)  
[Timothy.Tate@areva.com](mailto:Timothy.Tate@areva.com)

Karl Sturzebecher  
Project Manager  
U.S. Nuclear Regulatory Commission  
[Karl.Sturzebecher@NRC.gov](mailto:Karl.Sturzebecher@NRC.gov)

Jacob Zimmerman, Chief - Enrichment and Conversion Branch  
U.S. Nuclear Regulatory Commission  
[Jacob.Zimmerman@nrc.gov](mailto:Jacob.Zimmerman@nrc.gov)

Omar Lopez-Santiago, Chief  
U.S. Nuclear Regulatory Commission  
[Omar.Lopez-Santiago@nrc.gov](mailto:Omar.Lopez-Santiago@nrc.gov)

Rick Boyle  
US Department of Transportation  
[Rick.Boyle@dot.gov](mailto:Rick.Boyle@dot.gov)

**Enclosure 1**  
**10 CFR 71.95 Report**

As required by 10 CFR 71.95, UUSA is providing responses to the following requirements.

- (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 April 18, 2016, UUSA had a purchase order fulfilled for 156 Brass Hex 1 inch caps. The material for the component was brass ASTM B16 or equivalent. The supplier satisfied the order as requested by UUSA.

The purpose and safety objective of this port cap is to prevent any loss or dispersal of possible contamination from the valve's internal space and also to protect the valve from intrusion of dirt and/or water from the outside. The port cap is not part of the pressure retaining containment of the valve nor is this part credited in any Integrated Safety Analysis for the UF<sub>6</sub> cylinders.

- (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*

The cylinder valves are verified to be closed prior to installing and removing the cap. The cylinders shipped with the caps that were non-compliant were sent in the standard UX-30 over-pack. The incorrect material of the cap did not cause any system or component to be inoperable.

- (ii) *Dates and approximate times of occurrences*

On December 12, 2017, while performing an extent-of-condition for the certificate of compliance, it was discovered that UUSA procured the caps made from a material that was non-compliant per ANSI N14.1. On December 01, 2017, UUSA shipped 6 cylinders to Framatome (formerly AREVA) and 6 cylinders to GNF-A. 5 cylinders, 3 to GNF-A were outfitted with the incorrect cap and we are investigating that potentially 2 to Framatome were outfitted with the incorrect cap. The caps received from the December 01, 2017 shipment caps are being replaced by the Fuel Fabricators and will be returned to UUSA for positive material identification (PMI) testing.

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

The order was placed with a vendor for to fulfill against the submitted drawing. The vendor supplied UUSA with the material as requested per the drawing, however, UUSA requested "Brass ASTM B16 or equivalent" which was the incorrect material. ANSI N14.1 requires the cap to be made from one of three materials:

- ASTM B150, Aluminium-bronze (UNS C61300) OR
- ASTM B164, Nickel-Copper (N04400) OR
- Aluminium bronze (UNS C63600).

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

Had the cylinder valve leaked-by, there was not a potential for leakage through the valve cap threads. The cylinder valve is verified shut as part of UUSA procedures. The valve cap is also torqued shut. There is no evidence that leakage occurred during shipment of the cylinders.

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

No systems or secondary functions were affected by the cap material non-conformance.

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

The incorrect port cap material was discovered as part of an extent-of-condition review from an Apparent Cause Evaluation (ACE) against the certificate of conformance standards.

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

The event was entered into the UUSA Corrective Action Program and included in the initial ACE which led to the discovery.

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

This issue relates to 30B cylinders, manufactured in accordance with the requirements of ANSI N14.1. The installed valve was a UF<sub>6</sub> Cylinder Valve 51 as specified in ANSI N14.1. The port cap specified in ANSI N14.1, 2012, Figure 16, part 7, used on the valve was a 1" Brass Hex received from NucFil LLC.

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

The cylinders contained enriched UF<sub>6</sub>. The proper shipping name would be: RQ, UN2977, Radioactive Material, Uranium Hexafluoride, Fissile, Class 7(6.1, 8) (Enriched to 20% or less). Packaged in metal cylinders (Type A). Physical form: Solid, normal form, packaged in USA/9196/B(U)F-96 UX-30 type B protective PSP.

(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.*

Based on procedural activities performed at UUSA, there is reasonable assurance that the cylinder isolation valve remained closed and that no leakage of material occurred during shipment of the cylinders.

- (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.*

A condition report was written to document the deviation and the Fuel Fabrication Facilities were notified. Corrective Actions were assigned from the UUSA Apparent Cause Evaluation(ACE). UUSA blocked the use of incorrect caps and stopped procurement of new caps. Additionally, UUSA identified the correct source of supply and performed PMI testing on the in-process cylinder caps to ensure all cylinders shipped off-site are compliant with ANSI N14.1.

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

This incident was discovered on December 12, 2017 and UUSA is not aware of previous similar events involving the same packaging.

- (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.*

If you have any questions, please contact Wyatt Padgett, Licensing and Performance Assessment Manager, at 575-394-5257.

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

The cap is not a pressure boundary for the cylinder, however, based on procedural activities performed at UUSA, there is reasonable assurance that the cylinder isolation valve remained closed and that no leakage of material occurring during shipment of the cylinder. As such, there was no unexpected exposure to any individuals.