



Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

January 29, 2016

10 CFR 71.95

ATTN: Document Control Desk
Director, Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Browns Ferry Nuclear Plant, Units 1, 2, and 3
Renewed Facility Operating License Nos. DPR-33, DPR-52, and DPR-68
NRC Docket No. 50-259, 50-260, and 50-296

Subject: **10 CFR 71.95 Notification Associated With the Failure to Observe Certificate of Compliance Condition of the 8-120B Secondary Lid Test Port Configuration**

Reference: Letter from EnergySolutions to TVA, "ES-CD-O-2015-006: 10 CFR 71.95 notification associated with the failure to observe Certificate of Compliance condition of the 8-120B secondary lid test port configuration," dated September 21, 2015

In accordance with 10 CFR 71.95(a), the Tennessee Valley Authority (TVA) is reporting the use of model 8-120B casks which were not in compliance with Certificate of Compliance (CoC) No. 9168. EnergySolutions submitted a report to TVA on September 21, 2015, providing information with respect to the non-compliance with the CoC No. 9168 for the model 8-120B cask. The referenced EnergySolutions letter noted that the 8-120B-6 secondary lids used by Browns Ferry Nuclear Plant (BFN) did not comply with approved 8-120B Safety Analysis Report (SAR) drawings. The secondary lids were fabricated with a cladding tube inside the test port hole, but the tube is not shown on the SAR license drawings referenced by the CoC. This is a documentation only issue, and EnergySolutions documents in the referenced letter that there were no safety consequences due to the as-built test volumes with tubes installed in the secondary lid meeting the basis for the pre-shipment leak rate test hold time.

The 8-120B-6 casks contained Class A radioactive waste with a dose rate greater than one (1) Rem per hour at three (3) meters, which required the use of Type B packages for shipment.

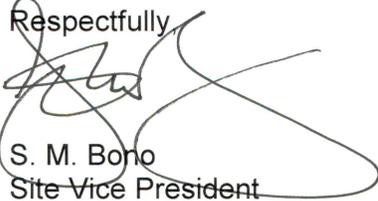
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BFN shipped an 8-120B cask as a Type B package on five separate occasions:

- February 9, 2015 (#150204)
- February 18, 2015 (#150210)
- March 6, 2015 (#150215)
- March 13, 2015 (#150305)
- March 20, 2015 (#150311)

There are no new regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact J. L. Paul, Nuclear Site Licensing Manager, at (256) 729-2636.

Respectfully,



S. M. Bono
Site Vice President

Enclosure: Letter from EnergySolutions to TVA, "ES-CD-O-2015-006: 10 CFR 71.95 notification associated with the failure to observe Certificate of Compliance condition of the 8-120B secondary lid test port configuration," dated September 21, 2015

cc (w/ Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant

ENCLOSURE

**Browns Ferry Nuclear Plant
Units 1, 2, and 3**

Letter from EnergySolutions to TVA, "ES-CD-O-2015-006: 10 CFR 71.95 notification associated with the failure to observe Certificate of Compliance condition of the 8-120B secondary lid test port configuration," dated September 21, 2015

See Enclosed

September 21, 2015

Letter ID: ES-CD-O-2015-006

Subject: 10 CFR 71.95 notification associated with the failure to observe Certificate of Compliance condition of the 8-120B secondary lid test port configuration.

Dear Valued Customer:

During a recent NRC audit performed September 8-10, 2015 assessing implementation of EnergySolutions' 10CFR71 program at our Columbia, SC and Barnwell, SC facilities, the NRC inspection team identified that four out of eight 8-120B secondary lids (Subject Secondary Lid ID numbers 8-120B-5, -6, -7 and -8) did not comply with approved 8-120B SAR drawings referenced in the current revision of the Certificate of Compliance 9168 (CoC). The subject secondary lids were fabricated with a cladding tube inside the test port hole, but the tube is not shown on the SAR licensing drawings referenced by the CoC. Based on this, the conditions of approval in the CoC were not observed for any Type B shipments of radioactive material made in 8-120B casks utilizing the subject secondary lids. Subject secondary lids were entered into service between October – December, 2014 and have been used for a total of 52 shipments by licensees. The condition was determined not to have a safety consequence because the as-built test volumes with tubes installed in subject secondary lids met the basis for the pre-shipment leak rate test hold time.

Although, cladding tubes were part of the original NRC approved cask configuration in the old 8-120B secondary lids (used before August 31, 2013), they were inadvertently omitted in the new secondary lids design entered into service in September, 2013. Due to this condition, EnergySolutions suspended the use of the 8-120B casks with subject secondary lids. Further, EnergySolutions, on September 16, 2015, submitted a CoC amendment request to NRC requesting authorized usage of the subject secondary lids. EnergySolutions will retrofit all 8-120B secondary lids with the tube design at the earliest opportunity. We expect that the NRC will grant a new CoC (Rev.22) shortly and the use of the affected 8-120B casks with subject secondary lids will resume. All our 8-120B users will be provided with a separate notification and an updated 8-120B cask book which will clarify the status of the affected CoC that the 8-120B casks can operate under.

Please see EnergySolutions' attached report containing the information required by 10 CFR 71.95. In the report, EnergySolutions describes the cause of the occurrence and provides information that supports that there is no safety significance associated with this condition. We expect that the information required for individual users to make their own notifications is contained within this report. Reference to this report in individual user reports is appropriate, if you so choose.

We sincerely apologize for any inconvenience this issue may have caused within your organization. Our corrective actions as a result of this issue are intended to prevent recurrence of similar issues and to ensure the highest quality of products and services that we provide. For additional details, please contact Aleksandr Gelfond at axgelfond@energysolutions.com or 803-587- 9117.

Sincerely,



Mark S. Lewis
General Manager, Cask Logistics
Logistics, Processing and Disposal
EnergySolutions, LLC

Attachment 1: EnergySolutions' Report associated with *Failure to Observe Certificate of Compliance Conditions for the 8-120B Secondary Lid Test Port Configuration* (4 pages)

cc: Dan Shum (EnergySolutions)

cc: Aleksandr Gelfond (EnergySolutions)

Failure to Observe Certificate of Compliance Conditions for the 8-120B Secondary Lid Test Port Configuration

September 18, 2015

1) Abstract

During a recent NRC inspection of EnergySolutions' facility in Columbia, SC, the inspection team identified that the secondary lids of four 8-120B casks¹ did not comply with the approved SAR drawings referenced by the latest revision of the Certificate of Compliance 9168 (CoC). The secondary lids on the subject casks were fabricated with a cladding tube inside the test port hole, but the tube is not shown on the SAR drawing referenced by the CoC. The conditions of approval in the CoC were therefore not observed for any shipments of Type B quantities of radioactive material made using the subject secondary lids. Attachment 1 illustrates the secondary lid test port and tube configurations.

The purpose of the secondary lid test port tube is to isolate the pre-shipment test volume from the interspace between the two 3 1/4" thick plates that make up the secondary lid. The isolation of the test volume provided by the tube assures that the test volume does not exceed the limit on which the hold time for the pre-shipment leak rate test is based. However, if the free volume in the interspace between the plates is negligible, then the isolation function of the tube is not necessary.

The tube was shown as a design feature in the 8-120B SAR drawings referenced by Revision 17 of the CoC, and previous revisions, but the tube was not credited with any safety function in the SAR. The tube was inadvertently omitted when the lids were redesigned for operational enhancements in CoC Revision 19. The omission was identified by EnergySolutions' corrective action system while the subject lids were still in fabrication. A corrective action was assigned to measure the as-built test volumes, which included the void space between the thick plates since there were no tubes installed. The test volumes were found to exceed the volume basis for pre-shipment leak rate test hold time calculated in the SAR. The tubes were therefore installed, and the lids were placed on QA-hold using EnergySolutions' noncompliance procedure because they did not meet the lid configuration authorized by the CoC in effect at that time (i.e., CoC, Rev. 20). EnergySolutions subsequently made a determination that prior NRC authorization was not required (because the tubes had been part of the previous NRC-approved 8-120B cask design and were inadvertently omitted from the new secondary lid design), cleared the hold, and released the lids for use. The tubes were restored to the SAR drawings as part of a broader license amendment request submitted in May 2014, but the request was withdrawn for unrelated reasons. A new license amendment request submitted to the NRC on 9/16/2015 reintroduces the tubes to the secondary lid design.

The presence of the tubes in the subject secondary lid test ports has no safety consequence because the as-built test volume meets the basis for the pre-shipment leak rate test hold time.

¹ Secondary lid numbers 8-120B-5, -6, -7, and -8.

2) Narrative Description of the Event

a) Status of Components

All of the 8-120B casks operating with the secondary lids that have the tube installed in the test port (i.e., secondary lid numbers 8-120B-5, -6, -7, and -8) have been removed from service until CoC No. 9168 is amended to include the tube.

b) Dates of Occurrences

Casks with the secondary lids that have the tube installed in the test port (i.e., secondary lid numbers 8-120B-5, -6, -7, and -8) were entered into service between October 2014 and December 2014 and have been used for a total of 52 Type B shipments (by all licensees).

c) Cause of Error

EnergySolutions cleared the hold and released the subject secondary lids for use, believing that prior NRC authorization was not required because the tubes had been part of the previously NRC-approved 8-120B cask design and were inadvertently omitted from the new secondary lid design.

d) Failure Mode, Mechanism, and Effects

Not applicable.

e) Systems or Secondary Functions Affected

Not applicable.

f) Method of Discovery of the Error

The error was identified by the NRC inspection team during an audit at the *EnergySolutions*' facility in Columbia, SC.

3) Assessment of Safety Consequences

The presence of the tubes in the subject secondary lid test ports has no safety consequence because the as-built test volume meets the basis for the pre-shipment leak rate test hold time. The secondary lid test port configuration of the subject lids is similar to the design previously authorized for use prior to CoC Revision 19.

4) Planned Corrective Actions

The following corrective actions are planned by *EnergySolutions*:

- *EnergySolutions* has removed 8-120B casks with the secondary lids that have the tube installed in the test port (i.e., secondary lid numbers 8-120B-5, -6, -7, and -8) from service until authorized to resume their use.

- *EnergySolutions* has evaluated the condition for reportability under 10 CFR 71.95 and has concluded that it is reportable.
- *EnergySolutions* will notify the licensees (cask users) that have made shipments using the 8-120B casks with the affected secondary lids and advise them to evaluate reportability under 10 CFR 71.95.
- *EnergySolutions* has prepared and submitted an application to NRC to amend CoC No. 9168 to include the test port tube in the four subject secondary lids as an authorized configuration.
- *EnergySolutions* will perform an apparent cause analysis and identify additional corrective actions to prevent recurrence.

5) Previous Similar Events Involving the 8-120B

No previous similar events have been identified.

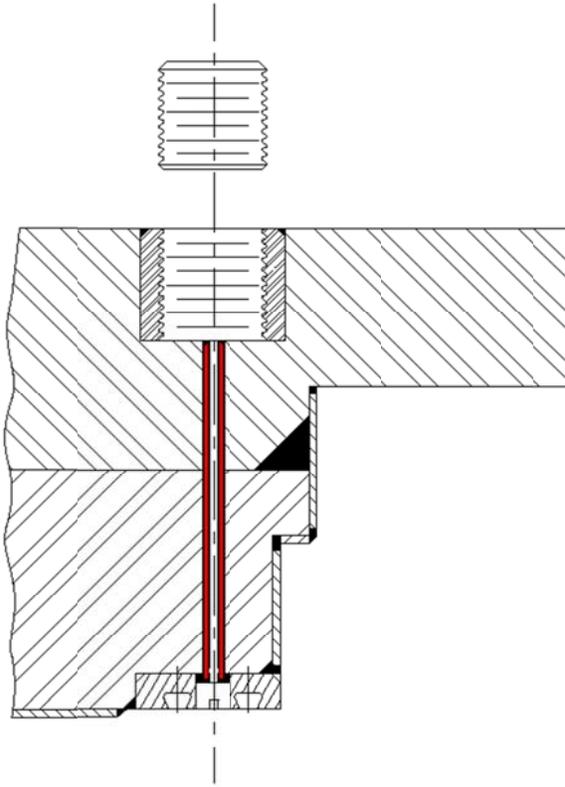
6) Contact for Additional Information

Dan Shrum
EnergySolutions
Senior Vice President, Regulatory Affairs
(801) 649-2109

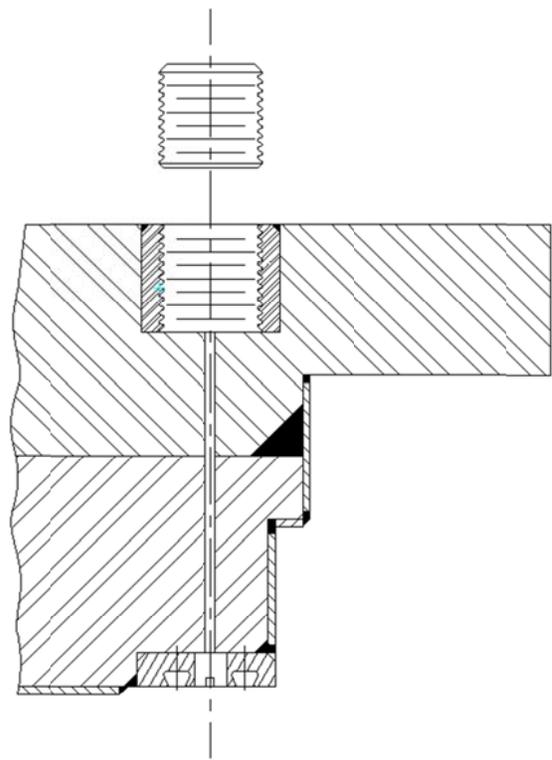
7) Extent of Exposure of Individuals to Radiation or Radioactive Materials

None.

Attachment 1



Secondary Lid Test Port
with Cladding Tube
(subject secondary lids)



Secondary Lid Test Port
without Cladding Tube
(current CoC configuration)