



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-13-101

October 15, 2013

10 CFR 50.4  
10 CFR 71.95

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Director  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety and Safeguards  
Washington, DC 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 Nos. 50-259, 50-260, and 50-296

Sequoyah Nuclear Plant, Units 1 and 2  
Facility Operating License Nos. DPR-77 and DPR-79  
NRC Docket Nos. 50-327 and 50-328

Watts Bar Nuclear Plant, Unit 1  
Facility Operating License No. NPF-90  
NRC Docket No. 50-390

Subject: **10 CFR 71.95 Report of Non-Compliance with  
Certificate of Compliance # 9168 - Cask 8-120B**

- References:
1. Letter from *EnergySolutions* to Valued Customer, "Completion of Review of the Event and Report in Accordance with 10 CFR 71.95(a)(3)," dated August 14, 2013
  2. Letter from *EnergySolutions* to NRC, "10 CFR 71.95 Report on the 8-120B Cask," dated August 14, 2013

In accordance with the requirements of Title 10 of the Code of Federal Regulations (CFR) 71.95, the Tennessee Valley Authority (TVA) hereby submits this report for a condition that resulted in the Certificate of Compliance (CoC) for a radioactive shipping cask not being followed during shipments.

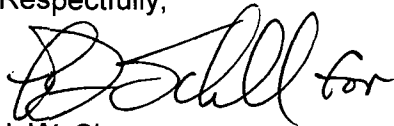
NM5524  
NRR  
NM55

In Reference 1, *EnergySolutions* notified TVA of an identified condition with their radioactive shipping cask air pressure drop test procedure TR-TP-002 which is credited in the Safety Analysis Report (SAR) for Cask model 8-120B. *EnergySolutions'* air pressure drop test procedure TR-TP-002 described a 20-minute hold time for the pre-shipment leak test of the cask vent port. The 8-120B SAR specified a hold time of 60 minutes for the test; therefore, as stated by *EnergySolutions* in Reference 1, "the conditions of approval in the Certificate of Compliance (CoC) may not necessarily have been observed when making shipments." In Reference 2, *EnergySolutions* notified the NRC of the condition.

TVA and *EnergySolutions* investigated this issue and determined there were no adverse safety consequences due to not performing the pre-shipment leak test for 60 minutes. In accordance with 10 CFR 71.95 the enclosure provides the results of the investigation.

If you or your staff has any questions, please contact Edward Schroll 423-751-3850.

Respectfully,



J. W. Shea  
Vice President, Nuclear Licensing

Enclosure:

1. 10 CFR 71.95 Report

cc (Enclosure):

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



**Tennessee Valley Authority**

**10 CFR 71.95 Report**

Approved: Brian D. Wood/ *Brian D. Wood* Date: 10/1/13

## 1. Abstract

*EnergySolutions* notified the Tennessee Valley Authority (TVA) that in late May, 2013, an 8-120B cask user discovered a discrepancy between *EnergySolutions'* air pressure drop test procedure TR-TP-002 and the 8-120B Safety Analysis Report (SAR). *EnergySolutions'* air pressure drop test procedure TR-TP-002 described a 20-minute hold time for the pre-shipment leak test of the cask vent port. The 8-120B SAR specifies a hold time of 60 minutes for the test; therefore the conditions of approval in the Certificate of Compliance (CoC) were not observed during previous shipments. Procedure TR-TP-002 is the basis for leak tests on all *EnergySolutions* shipments, as well as the suggested procedure content for most shipments. Based on a review performed by *EnergySolutions* of past revisions of CoCs, SARs and cask handling procedures, it appears that this discrepancy has existed for approximately 12 years, spanning approximately 88 cask users and approximately 1,400 shipments. There were no failures of equipment associated with this event.

TVA has used the *EnergySolutions* cask model 8-120B for shipments of radioactive waste originating from the three sites, Browns Ferry Nuclear Plant, Sequoyah Nuclear Plant, and Watts Bar Nuclear Plant.

TVA conducted an investigation that included a review of internal and external procedures used for making radioactive waste shipments and determined that there were no adverse safety consequences due to not performing the pre-shipment leak test for 60 minutes. *EnergySolutions* has subsequently revised TR-TP-002 to incorporate the SAR required 60-minute vent port leak pressure test.

## 2. Event Description

*EnergySolutions* filed a 10 CFR 71.95 report with the NRC due to a condition whereby the 8-120B cask user's procedure (TR-TP-002) did not meet the requirements of the 8-120B SAR; therefore not meeting the conditions of approval in the cask's CoC.

According to the information provided by *EnergySolutions* (Reference 1), the *EnergySolution's* air drop test procedure TR-TP-002 described a 20-minute hold time for the pre-shipment leak test of the cask vent port. The 8-120B SAR specifies a hold time of 60 minutes for the test; therefore the conditions of approval in the CoC may not necessarily have been observed in making shipments.

*EnergySolutions* reports (Reference 2) that all 8-120B components are operating normally; no components or systems were Inoperable at any time. Procedure TR-TP-002 has been revised to reflect the correct hold time for the leak test of the cask vent port.

The actual date of discovery of the issue was not provided by *Energy Solutions*. The discrepancy is reported to have been discovered in late May 2013. *EnergySolutions* reported that the condition had existed since February 2001.

### **3. Safety Consequences Assessment**

Based on the conclusions of the investigations performed by *EnergySolutions* and by the TVA Program Manager Meteorological/Environmental/Radiation, there were no adverse safety consequences from using the 20-minute hold time instead of performing the pre-shipment leak test of the 8-120B cask vent port required by the CoC.

### **4. Corrective Actions**

*EnergySolution's* corrective actions were reported as follows:

*EnergySolutions* revised TR-TP-002 to incorporate the SAR required 60-minute vent port leak test and notified cask users of the change.

Beginning September 1, 2013, the 8-120B fleet has been shipped with a new lid design, authorized in the latest revision of the CoC. Thereafter, the 8-120B cask shall no longer be used with the old seals that were authorized in Revision No. 17 of the 8-120B CoC. Shipments with the new lids are required to use the seals authorized in Revision 19 of the CoC. The *EnergySolutions* air pressure drop test procedure TR-TP-002 has been reissued based on the requirements of Revision 19 of the 8-120B CoC. These revisions were approved by the *EnergySolutions* Cask Licensing Manager to ensure that they are compliant with the requirements of the CoC.

*EnergySolutions* has also initiated a lifecycle procedure for managing Type B casks to ensure that CoC requirements flow through the design, fabrication, and operational phases. This is a new procedure that would also identify and prevent future inconsistencies between the SAR and operating procedures. The procedure was effective on August 19, 2013.

The error in incorporating the revised 60-minute vent port leak rate criteria into TR-TP-002 raises a question as to whether there are other similar errors involving the flow-down of requirements into operating procedures. Accordingly, *EnergySolutions* plans to conduct a review of the 8-120B and other *EnergySolutions* Type B packagings to verify that CoC and SAR requirements have been accurately translated into the prescribed operating procedures. If any such discrepancies are found, *EnergySolutions* will expand the scope of these reviews as necessary.

### **5. Previous Events**

Based on review of the corrective action program (CAP) at all three TVA sites there is no evidence of a previous similar event.

### **6. TVA Contact Information**

Mr. Brian Wood - Program Manager Meteorological/Environmental/Radiation (423) 751- 6959  
Mr. Edward D. Schrull, Corporate Manager - Licensing (423) 751-3850

## **7. Radiation Exposure**

There were no radioactive exposures to individuals as a result of this event.

## **8. References**

1. Letter from *EnergySolutions* to Valued Customer, "Completion of Review of the Event and Report in Accordance with 10 CFR 71.95(a)(3)," dated August 14, 2013
2. Letter from *EnergySolutions* to NRC, "10 CFR 71.95 Report on the 8-120B Cask," dated August 14, 2013