

Event #: 57751						
Event Type: Power Reactor						
Site: Browns Ferry				Notify Date/Time: 2025-06-10 14:15 (EDT)		
Unit: 3 / Region: 2 / State: AL				Event Date/Time: 2025-06-04 13:43 (CDT)		
Facility: [1] GE-4,[2] GE-4,[3] GE-4				Modify Date/Time: 2025-06-10 14:44		
Containment Type: MARK I						
Notified by: Ryan Coons			Notifications: Blamey, Alan R2DO			
HOO: Sam Colvard			Part 21/50.55 Reactors, - EMAIL			
Emergency Class: Non Emergency						
10 CFR Sections:						
21.21(d)(3)(i) Defects And Noncompliance						
Unit	Scram Code	Rx Crit	Init Power	Init RX Mode	Curr Power	Current RX Mode
3	N	Yes	100	Power Operation	100	Power Operation
PART 21 - GATE VALVE STEM FAILURE						
The following information was provided by the licensee via phone and email:						
"On June 4, 2025, the Tennessee Valley Authority (TVA) determined there are manufacturing non-conformances associated with the stem failure on a 10-inch, Class 900 Anchor Darling double-disc gate valve, used as a high pressure coolant injection system (HPCI) isolation valve in Browns Ferry Nuclear Plant, Unit 3 (vendor drawing: W0025604; serial number: E125T-2-2).						
"On May 9, 2024, the vendor, Flowserve, was contacted and assumed responsibility for performing the Part 21 Evaluation for this valve. On October 28, 2024, Flowserve provided a 10 CFR 21.21(b) notification to TVA, stating that they were not capable of evaluating the existence of a defect. TVA procured additional engineering expertise to complete the required evaluation. These evaluations were tracked by TVA under CR 1942523. An independent failure analysis by BWXT was provided to Flowserve. BWXT concluded that 'the most likely cause of failure was brittle overload fracture due to a combination of tensile and bending forces that were exacerbated by the presence of shallow outer diameter initiated cracks and a significant loss of material ductility due to thermal embrittlement.' TVA also procured a second independent technical evaluation from MPR Associates, Inc., and provided their report to Flowserve to help with their evaluation. This report concluded that the event was apparently caused by an improper upper wedge-to-stem joint, and the resulting mismatch in mating surface diameters resulted in the bending stress which led to the valve failure, in conjunction with thermal embrittlement and excessive torques. TVA is providing notification of the existence of the defect and its evaluation.						
"This event was entered into the corrective action program as condition report 1914295.						
"The NRC Resident Inspector has been notified of this event, and a written report will be submitted within 30 days. Previous interim reports regarding this issue were submitted on June 23, 2024; August 22, 2024; and November 27, 2024."						
The following additional information was obtained from the licensee in accordance with Headquarters Operations Officers Report Guidance:						
The non-conforming part is no longer in service. There are similar parts in service at the Browns Ferry site, but it has been determined that the risk is low. Discussion will follow in the 30-day report.						