

Review of Browns Ferry 2014 Licensee Event Reports Presentation to NRC, May 15, 2015 Browns Ferry annual Review

3 SCRAMS in 2014, Unit 3 - 2 scrams; Unit 1 – 1 scram

Multiple Unit LERs

2592014002 03/31/2014

Browns Ferry 1,

Browns Ferry 2,

Browns Ferry 3 Diesel Generator Inoperable due to Fuel Oil Leak (repaired)

2602014001 03/27/2014 Browns Ferry 2, Browns Ferry 1 Electric Board Room Air Conditioning System Inoperable for Longer than Allowed by the Technical Specifications (repaired)

Unit 3

SCRAM - 2962014001 03/18/2014 Browns Ferry 3 Automatic Reactor Scram due to a Turbine Trip on High Moisture Separator Level

Cause - The root cause was a failure to prevent the introduction of foreign material during the manufacturing process of the Moisture Separator Level Controller. The manufacturing defect was a legacy issue dating back to 1971 when the controller body was originally machined. The corrective actions to prevent recurrence requires the removal, cleaning of air passages, replacement of control relays, for similar controllers and upgrading the calibration procedure to include cleaning guidance. (Has this been corrected?) see additional info

Additional Info in the report - Contributing Causes

1. A BFN organizational weakness in procedural guidance created a condition with less than adequate mitigating strategy.

2. Operators were slow to recognize the need to insert a manual scram of the reactor upon validation of an existing high level in the moisture separator with no other method available for reducing reactor power or controlling moisture separator water level.

→A bothersome comment in the LER related to this SCRAM event - The cause(s) and circumstances for each human performance related root cause: "There was no human performance related root cause." That is wrong as evidenced by the previous comments, e,g – "organizational weakness in procedural guidance, and Operators were slow to recognize the need..." These contributing causes are both directly related to human failures on the organizational level and specific reactor control room's staff. The failure to recognize that this is a human reliability failure points directly at management's safety culture, attention to detail and accurate reporting. This is what got TVA at Browns Ferry into the previous deplorable conditions directly related to its' recent history of the "red" 95003 inspection and degraded conditions. -> (What is the NRC's position on the failure to properly indicate a human related failure on the LER?)

SCRAM - 2962014002 05/06/2014 Browns Ferry 3 Automatic Reactor Scram due to an Anticipated Transient without Scram/Alternate Rod Insertion Signal Generated during Functional Test

→Corrective actions: (1) Install time delay relays in association with the reactor pressure ATVVS circuit on BFN Units 1, 2, and 3. (2) Replace the GE Master and Slave ATU cards associated with the initiating event. -> (Has this been accomplished?)

2962014003 06/02/2014 Browns Ferry 3 Primary Containment Isolation Valve Inoperable for Longer Than Allowed by Technical Specifications.

Unit 2

2602014003 05/21/2014 Browns Ferry 2 Both Trains of Standby Liquid Control Inoperable

Unit 1

SCRAM - 2592014003 08/26/2014 Browns Ferry 1 Turbine Generator Neutral Overvoltage Causes a Reactor Scram

Root Cause - The root cause of the event was the failure of an internal fuse [FU] to Generator Circuit Breaker Potential Transformer to clear a fault due to improper fuse size. This was the result of insufficient technical rigor during vendor design and in the Tennessee Valley Authority's (NA) review of the vendor design.

Contributing Cause - The contributing cause for this event was vendor manufacturing defects caused the Generator Circuit Breaker A-Phase Potential Transformer to experience a catastrophic failure.

→ Corrective actions - The corrective action to prevent recurrence is to develop and implement a design change for all three BFN Units to replace the fuses contained within the Main Generator Circuit Breaker Potential Transformers with a fuse that will coordinate with the Generator Neutral Overvoltage Relay and clear prior to the actuation point of the Generator Neutral Overvoltage Relay during any postulated failure of the Potential Transformers. (Has the corrective action been accomplished?)

2592014004 10/04/2014 Browns Ferry 1 Main Steam Isolation Valves Leaking in Excess of Technical Specification Requirements

2592014005 10/29/2014 Browns Ferry 1 Automatic Depressurization System Valve Inoperable for Longer Than Allowed by Technical Specifications

2592014006 11/25/2014 Browns Ferry 1 Main Steam Relief Valves' Lift Settings Outside Technical Specifications Required Setpoint

Garry Morgan comments – re VALVE CORROSION problems which were identified – Have valve corrosion problems been corrected via platinum coating of all valves which presented inoperability due to corrosion?

Browns Ferry You Tube Videos NRC Meeting:

NRC/TVA Presentation- <https://www.youtube.com/watch?v=RNIADobk1yY>

Citizen Comments, part 1 - <https://www.youtube.com/watch?v=euc2tp7KcdI>

Citizen Comments, part 2 - <https://www.youtube.com/watch?v=knuB94TVVBI>