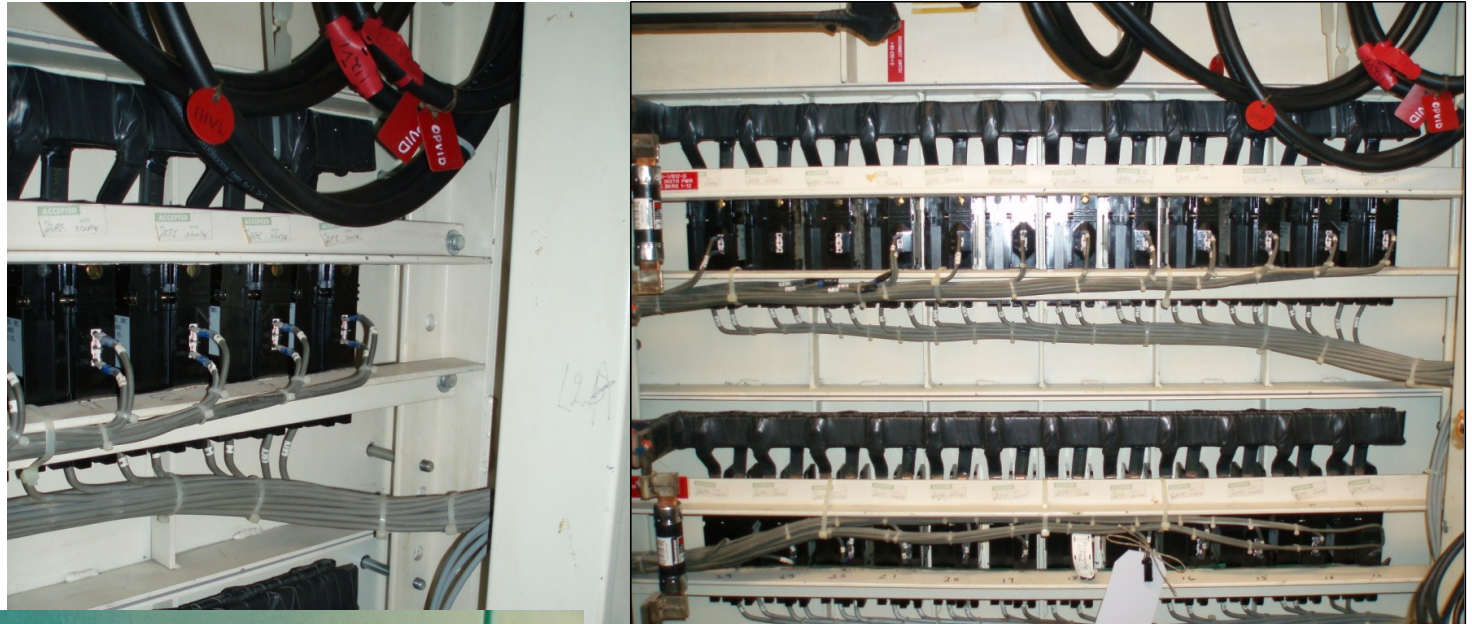


# TVA Heinemann Molded Case Circuit Breakers (MCCBs)

## Power Board Design:

The breakers are clamped between the front cover and the two angle iron supports in the rear.



Enclosure 4

# Timeline

- 1974: Initial seismic qualification of 120Vac vital instrument power boards
- 1992: Replacement Heinemann MCCBs are Dedicated as Commercial-Grade
- 2008: Heinemann redesigned breakers
- 2010: TVA installed breakers at Watts Bar Unit 2

# Regulatory History

- January 2009: NRC questioned differences in mounting methods between the seismic testing and the installation in Watts Bar Unit 1.
- August 2010: Evaluation of historical Corrective Action Program (CAP) resulted in a violation for not adequately addressing the issue within their CAP.
- September 2010 – TVA denied the violation.

# Regulatory History

- October 2010 – NRC upheld the violation.
- November 2010 – TVA accepted the violation.
- December 2010 – TVA presented their corrective actions at a public meeting.
- July 2011 – NRC inspected TVA's corrective actions and concluded that they were not sufficient to close the NOV.

# NRC's Concerns

- The MCCBs mounted during testing are not representative of the breaker's clamped arrangement as installed in the plant.
- The test arrangement placed an accelerometer 13 inches below the upper-most row of breakers.
- The circuit breakers, as viewed on past inspections, did not appear to firmly fit into the panel.
- The licensee used spacer materials, not documented on design drawings, as installation aids.

# Projected Path Forward

- Task Interface Agreement (TIA) has been drafted by Region II and submitted to the office of Nuclear Reactor Regulation (NRR).
- After acceptance of the TIA by NRR, a public meeting will be held in Rockville, MD.
  - Opportunity for TVA and NRC technical experts to discuss the issue.
- TIA will be finalized with all available information.
- TVA will then be able to make their decisions for Corrective Actions with knowledge of NRR's response to the TIA.

# Questions?