

Case Study:

Large Metropolitan Utility Company



Trip Shaft Bearing Replacement in GE Magne-Blast Medium Voltage Breaker

Objective

- Repair GE Magne-Blast breaker with the absolute shortest amount of downtime possible for a metropolitan utility company.

Solutions

- The Quad Plus Shop Manager worked with the customer to devise a new procedure for removing and transporting just the trip shaft bearing linkage to the Quad Plus Breaker Lab to allow for an expedited repair.

Results/Benefits

- GE Magne-Blast Medium Voltage Breakers were restored to working order.
- The customer was spared the time and expense of multi-person crews and large equipment necessary to remove the entire breaker from the site.
- The customer did not have to obtain, transport, and install a spare breaker from another location saving substantially on the overall cost of the project.
- Downtime for this repair was kept to the absolute minimum possible.
- Once all breakers were repaired in this manner, the customer did not experience major outages due to failure-to-trip situations.

Background

Utility company in a large metropolitan area reported trip shaft bearings seizing up in the mechanism of a GE Magne-Blast breaker. The result was numerous failure-to-trip situations which led to bus lockouts and major service interruptions to the metropolitan area utility customers. There was a clear need for urgent repair.

Quad Plus Solution

The Quad Plus Shop Manager worked closely with the customer to develop a Method of Procedure to replace the trip shaft bearings in the mechanism without having to remove the mechanism from the breaker, or remove the breaker from the customer's site. This specialized procedure was necessary to expedite the repair as only the shortest amount of downtime could be tolerated by the customer.

To complete the new procedure, our Shop Manager provided training for the customer's electricians on removal of the trip shaft bearing linkage. That way, the linkage could be brought immediately to our shop for bearing replacement, and returned to the customer quickly to be reinstalled in their breaker.

The result was a breaker that could be put back into service with minimal downtime and the assurance that the failure-to-trip problem was solved. The customer was spared the time and expense of transporting backup breakers from another location to put in use while the original breaker was being repaired as the malfunctioning breaker was out of service for such a short period of time.



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