Case Study:

Aging GE Magneblast Circuit Breaker Problems

Quad Plus®

Fossil Fuel Power Generator Experiencing Trouble with Aging Breakers

Objective

- Onsite assistance for unexpected issues.

Solutions

- Provided customer with equipment-specific recommendations to supplement current corporate guidelines.
- Performed proper testing and inspections of equipment.
- Completed recommended machine maintenance.

Results/Benefits

- Significantly improved worker safety
- Eliminated downtime and production loss due to switchgear

Background

The Quad Plus team was called out to this fossil fuel power generation plant to perform OEM maintenance procedures, PM work, and onsite support for unexpected issues. The customer has a large number of 4160 GE Magneblast breakers, all of which are 50+ years old. Some breakers are operated frequently, causing excessive wear due to lack of lubrication and general maintenance. Others were operated rarely, causing dirt buildup.

Due to a lack of proper maintenance, a few breakers were not functioning at all sometimes. The company also implemented modern lockout/tagout procedures that led to numerous issues with the elevator system on the breakers. Each breaker weighed in excess of 500 pounds and are lifted vertically into cells. Industrial circuit breaker repair and upkeep were needed immediately.

The risk of damage to equipment or injury to workers was high due to the potential of the elevator failing during a racking procedure. This could result in the breaker elevator falling on one side and the unit becoming wedged in the cell.

Quad Plus Solution

The first step was to meet with the customer to review equipment-specific recommendations that would supplement the corporate guidelines they had been issued. These recommendations included overhauling heavily used equipment, semi-annual inspections, and regular testing of circuit breakers an other equipment.

Before implementing these solutions, the plant was experiencing an average of four major issues annually due to failing elevator mechanisms. These issues led to significant delays in the expected release to service. After performing proper inspections, applying adequate lubrication, and testing the equipment regularly, the plant had no equipment issues related to normal shutdown operations.

The customer was satisfied, having substantially increased the safety of the work environment and elimination of downtime and production loss due to switchgear.