

Generator Collector rings may wear unevenly over time due to uneven brush pressure, or differences in polarity. Rings can wear to the point where dust-removal grooves virtually disappear. Ground insulation underneath the collector rings can also deteriorate. These conditions can lead to brush sparking, field ground faults, or even fire.

Continuous brush-to-ring contact is critical. When a collector ring and its brushes are not in continuous contact, arcing can result and generator performance deteriorates rapidly. Thus, arcing should be recognized immediately as a warning of impending serious trouble. Brush-to-ring contact can be restored by reconditioning the collector ring surface.

### Possible Reconditioning Solutions

- If rings are uneven, grind them to the same diameter and concentric with the rotor shaft.
- If dust grooves are worn, restore them to their original condition by regrooving the rings, provided the rings have enough thickness remaining.
- If insulation is grounded, remove and reinsulate rings.
- If regrooving or remachining of the ring is not possible because of extensive wear, install new rings with new insulation.

### Solution Highlights

- Generator and Exciter collector/slip rings repaired on-site and in-situ.
- Refurbishment of any diameter or length is accomplished using several different techniques.
- Repairs completed while stationary or in turning gear
- Helical cooling grooves can be re-cut in-situ
- New collector/slip rings installed on-site using portable lathe

