

PARTIAL DISCHARGE TESTING APPLICATIONS NEWSLETTER

Hampton Tedder Technical Services

HIGH VOLTAGE MAINTENANCE, TESTING AND ENGINEERING



“NO OUTAGE TESTING PREVENTS SWITCHGEAR FAILURES”

Medium voltage, air-insulated switchgear consists of many different types of electrical insulation that is subjected to electrical, mechanical, thermal and environmental stresses. Over time, these stresses cause partial discharges or partial breakdowns of the insulation, which is similar to small “sparking” activity. These discharges will cause tracking or other types of destruction to the insulation and will lead to complete failure.

Switchgear failure can be devastating to the operation of the entire facility. Often repairs can take days to complete before service can be restored.

On-Line Testing

Fortunately, a low cost service is available today that can detect partial discharge activity in switchgear so that failures can be avoided. The beauty of this service is that it is performed while the equipment remains in service, so no outage is required. The normal system voltage that is present creates the partial discharge activity and this activity can be safely detected without coming in contact with the voltage.

Not Infrared

Although infrared is a good tool for detecting loose connections or problems related to current flow, it cannot detect insulation or voltage related problems since partial discharges do not build up heat. According to IEEE statistics, up to 95% of switchgear failures are due to insulation breakdown.

So if you don't analyze your switchgear insulation, you increase your risk of failure significantly.



This dangerous tracking was located deep within the switchgear.

Advantages

Besides the advantage of not needing to shut down your facility, partial discharge testing has many other advantages.

- Problems which are not visible deep inside the switchgear can be found.
- Cables and terminations can also be analyzed during the same time that the switchgear is tested.
- Transformers and other substation equipment can also be tested in the same manner.
- Since the testing is performed during normal working hours, it is not very expensive.

Schedule a “No-Outage” Survey Today

Many facilities throughout the nation are now performing on-line partial discharge surveys on an annual basis. We can provide you with a daily rate quotation or a firm price if you provide a single-line drawing. Call us today!



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