QUALITROL®
Defining Reliability

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IRIS POWER
A QUALITROL Company

Iris Power Rotating Machines Remote Monitoring

CONTINUOUS ON-LINE REMOTE MONITORING FOR PARTIAL DISCHARGE (PD), ROTOR FLUX, ENDWINDING VIBRATION (EWV) AND SHAFT VOLTAGE AND CURRENT

Multi- year and multi technology scalable remote monitoring solutions

- ✓ Hardware included
- ✓ Alerts when there is an issue
- ✓ Asset and monitor Check-ins
- ✓ Wireless data transmission to monitoring center
- ✓ 2 comprehensive reports annually

CONDITION BASE MAINTENANCE

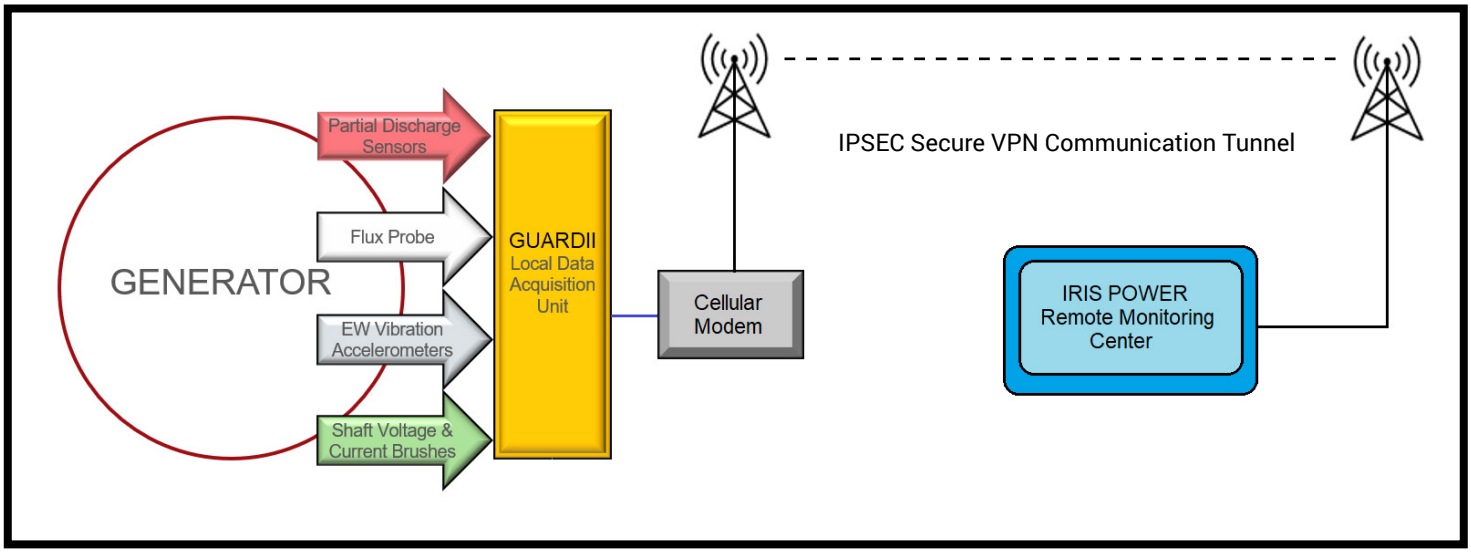
Predictive Maintenance (PdM), also called Condition-Based Maintenance (CBM), has rapidly become the best method to minimize overall maintenance costs of generators. CBM is an approach to planning maintenance where equipment is removed from service when, and only when, an on-line monitor gives an indication that some failure mechanism may be present. Thus, equipment shutdowns are NOT based on operating hours, the number of stop/starts, or the elapsed time since the last maintenance shutdown. With CBM, the time between maintenance outages can be signifi-cantly increased in well-made generators. CBM also reduces the risk of in-service failures, with the accompanying higher repair costs. Having confidence in planning maintenance, based on the actual condition of the generator, involves the following prerequisites:

IEEE Standard 1129: "Guide for On-Line Monitoring of Large Synchronous Generators" recommend on-line monitoring as one of the most effective ways to minimize long term mainte-nance costs and to reduce the risk of unexpected generator failure.

On-line monitors that are able to detect most of the failure mechanisms that are likely. If not, unanticipated failures may occur, which undermine confidence in the CBM approach.

There must be few false alarms. That is, if a monitor indicates a problem, an actual problem must be present.

The sensors and the monitor itself should not lead to a failure, and the monitoring cost must be a small percentage of the generator cost.



BENEFITS OF CONDITION BASED MAINTENANCE ON GENERATORS

- The time between generator shutdowns can be extended if monitoring reveals that the rotor and stator are in good condition. This increases availability and helps to avoid failures caused inadvertently during the shut-down inspections (such as leaving a tool in the machine).
- Problems can be found at very early stages, allowing for a maintenance shutdown to be planned at a convenient time. Experience also shows that if most problems are detected at an early stage, repair costs are often less than 1% of the rewind cost that would be incurred if the failure were permitted to occur in-service.
- Rewinds and other major repairs are based on need rather than the calendar or operating hours – or the desire of machine manufacturers and service organizations to generate after-market revenue.

THESE MONITORING TECHNOLOGIES INCLUDE:

- Reliable measurement of stator winding partial discharges (PD) using on-line methods.
- Detection of shorted turns in generator rotor windings using magnetic flux monitoring.
- Detection of stator endwinding vibration.
- Rotor shaft ground brush current and voltage monitoring.

The Iris Power GuardII+ monitor has been designed to be a continuous monitoring platform to incorporate one or more of the above technologies into a single, flexible format with a common hardware platform, database and interface.

With all these on-line monitoring technologies, as well as temperature monitoring, the majority of generator aging problems can be detected and addressed well before in-service failures occur. Qualitrol-Iris Power and its staff have been at the forefront in bringing these new monitoring technologies to utilities.

FEATURES	
Terms	3-year and 5-year contracts
Billing Options	Annually, Monthly, Quarterly
Technologies Monitored	• Partial Discharge • Rotor Shorted Turn Detection (Flux) • Endwinding Vibration • Shaft Voltage
Reports	2 comprehensive machine health reports, 6 months apart (additional reports can be purchased at extra cost)
Data Check-in	Monthly
Email Alerts	Included
Warranty and Hardware Maintenance	Included

MANAGE YOUR RISK

Qualitrol-Iris Power is the world's largest provider of asset monitoring and diagnostics solutions for high voltage motor and generator windings.

IRIS POWER | GUARDII+

Customer Value

>80k

Global sensor installs on rotating machines

#1

Online monitoring provider for motor and generator windings

>700k

Test results in Iris Power's on-line Partial Discharge database

GET IN TOUCH

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