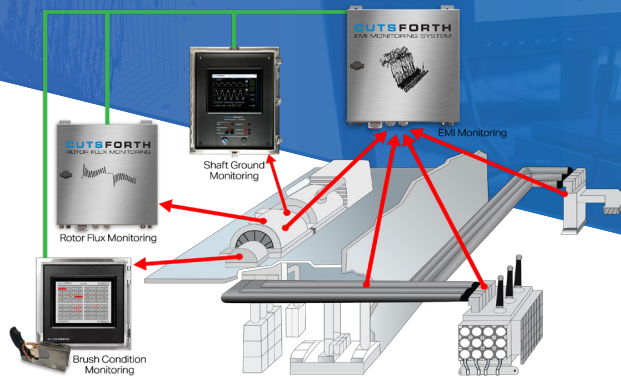


CUTSFORTH CONDITION BASED MONITORING

"If [plants] don't have generator monitoring systems installed today, [they] will in five years, and will for sure in ten years."

- President, WSC, Inc.



Monitoring determines the health of generators and corresponding equipment. Condition based monitoring programs can be used as long term planning tools. The tracking and trending capabilities allow plants to determine when to schedule maintenance outages by basing decisions on condition of the equipment rather than a calendar. This ultimately saves plants money on O&M budgets, and frees up resources for other projects.

⚡ BRUSH CONDITION MONITORING (BCM)

When plants continuously monitor brushes, they can forecast when problems may occur. Through vibration monitoring, companies can predict when rings may go out of round; monitoring brush length alerts plants to change brushes, reducing the risk of a costly ring fire.

Benefits of BCM:

- Reduces risk of ring fires and unplanned outages
- Reliably measures for faults in exciters and collector rings
- Measures and tracks historical data trends
 - » Brush wear rate
 - » Vibration
- Lowers maintenance costs
- Lengthens time between maintenance outages
- Increases safety and efficiency
- Data easily exports to control room
 - » Plants own and control their own data



⚡ ROTOR FLUX MONITORING (RFM)

Rotor Flux Monitoring continuously tracks the flux field detecting potential failures early reducing the number of costly surprise outages resulting from shorted turns and damaged rotor windings.

Benefits of RFM:

- RFM collects and trends data from flux probes sending it to the control room
 - » Companies own and control their own data
- Reduces costly forced outages
- Decreases risk of shorted turns and rotor ground faults
- NO outage required for installation
- Integrates into InsightCM





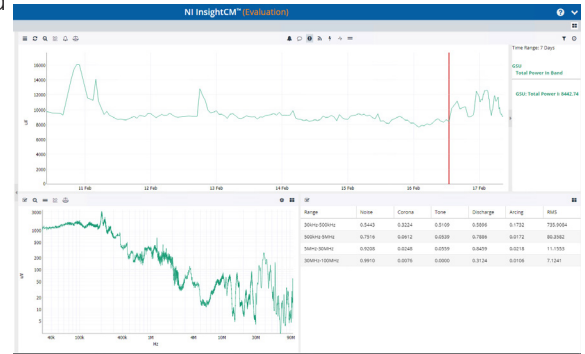
⚡ ELECTRO-MAGNETIC INTERFERENCE (EMI) MONITORING

EMI monitors for irregularities in generator emissions, which can lead to arcing and a variety of defects:

- Insulation breakdown and water intrusion
- Broken or contaminated insulators
- Contamination on windings
- Slot discharge
- Lose or broken hardware

Benefits of EMI Monitoring:

- Continuously measures and archives data to quickly identify defaults including:
 - » Arcing
 - » Partial Discharge
 - » Gap Discharge
 - » Corona
 - » Random Noise
 - » Micro-Sparking
- Automated Assessment tool aides personnel in determining which fault is present and where
- Reduces surprise and expensive outages
- Plants own and control their own data
- NO outage required for installation
- Integrates into InsightCM

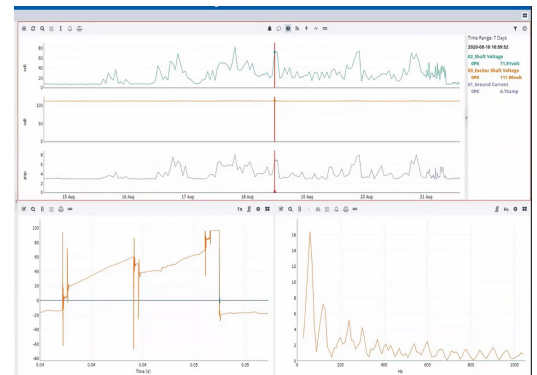


⚡ GENERATOR FIELD MONITORING (GFM)

This dynamic monitoring system combines Premium Shaft Ground Monitoring (SGM) and Rotor Flux Monitoring. SGM continuously measures voltage, current, and rope condition sending data to the control room where plant personnel can easily view and analyze waveforms to determine which faults are occurring.

Benefits of GFM:

- SGM monitors and trends failures:
 - » Poor shaft contact
 - » Bearing failure
 - » Stator insulation failure
 - » Exciter insulation failure
 - » Ground neutral failure
- Plants safely know when to replace grounding ropes
- Integrates into InsightCM
- Plants own and control their own data



⚡ CONDITION BASED MONITORING

Monitoring programs reduce maintenance costs and the risk of failures, while simultaneously increasing safety and manpower efficiency. Rather than spending money on third party consultants to take periodic measurements, continuous tracking and trending capabilities allow operators the benefit of planning outage cycles more accurately and efficiently without having to rely on a calendar.