



TIGER®

TIGER®: Knowledge Based Gas Turbine Condition Monitoring

THE NEED

- ❑ Gas turbines are the critical drivers of the plant.
- ❑ We do not want the turbine to stop and need maximum efficiency.
- ❑ We need to know what to maintain and when.
- ❑ It is impossible to manually assess the turbine condition.

THE DESIRE

- ❑ Understand the condition of the turbine.
- ❑ Detect problems at the earliest possible stage.
- ❑ Understand what happens when problems arise.

THE APPROACH

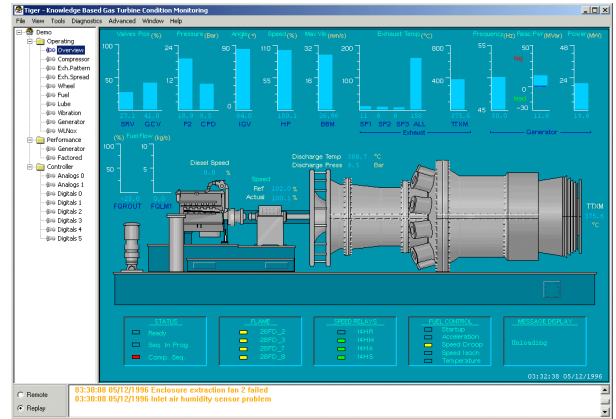
- ❑ Continuous monitoring **AND DIAGNOSIS** at 1/second.
- ❑ Comprehensive automated fault detection.
- ❑ Multiple levels of diagnostics.
- ❑ Easy to read summary of events.
- ❑ Extensive data archives and display.

THE BENEFITS

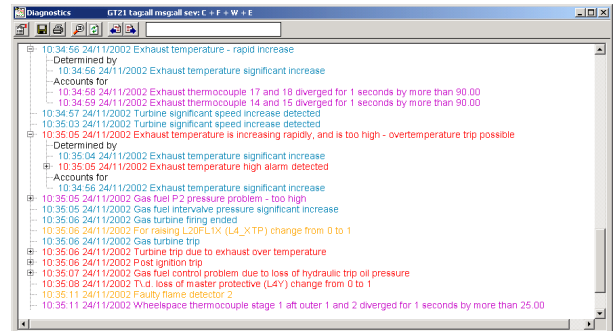
- ❑ Know **EVERYTHING** that happens to the turbine.
- ❑ Detect the first symptoms of a developing problem.
- ❑ Capture transient/short events.
- ❑ Rapidly troubleshoot major incidents.
- ❑ Understand the condition of the gas turbine.
- ❑ Enables condition based maintenance.

TIGER continuously evaluates the state of the gas turbine by automating the knowledge of the best gas turbine engineers. By diagnosing the state of the turbine every second, a complete picture is built-up of the condition of the turbine. TIGER performs several thousand fault detection steps every second.

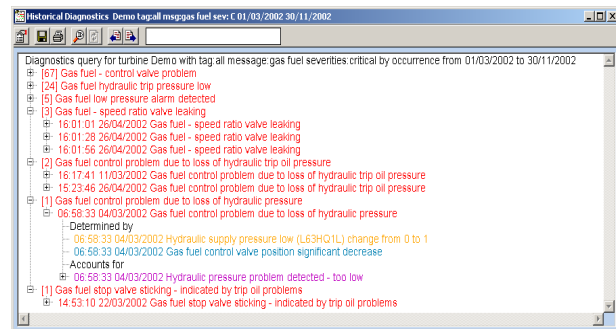
Higher-level diagnostic rules are then used to interpret these faults into a simple to read diagnostic summary. A quick check of this gives an overview of what has happened with the gas turbine in the last shift, day or week.



TIGER® Overview Screen



TIGER® Fault Manager Explanation of a High Level Conclusion



Diagnostic Query - Critical Gas Fuel Over 10 Months

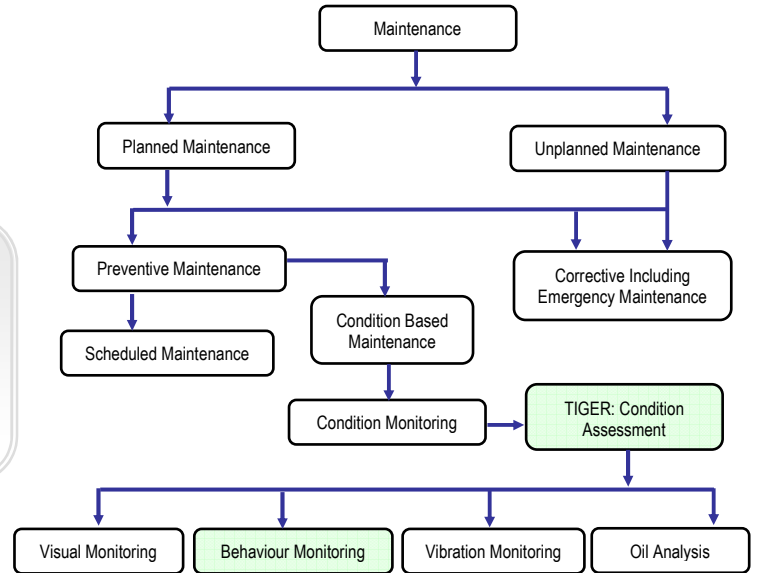


TIGER®

CONDITION ASSESSMENT IS THE KEY TO CONDITION MONITORING

TIGER determines the condition of the gas turbine by an intelligent assessment of the operating behaviour of the machine. This approach complements other approaches such as vibration based condition monitoring.

For more information, contact:
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WHAT IS CONDITION MONITORING?

Key Aspects

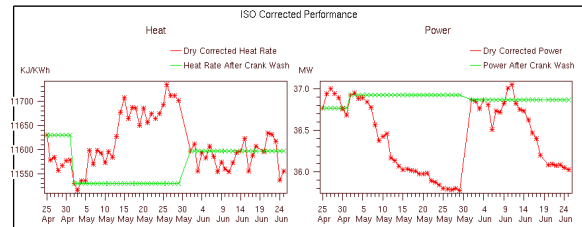
- Frequently checking the machine
- Detecting problems at the earliest stage
- Assessing the condition of the machine
- Create "picture" of the machine's condition

TIGER's Approach

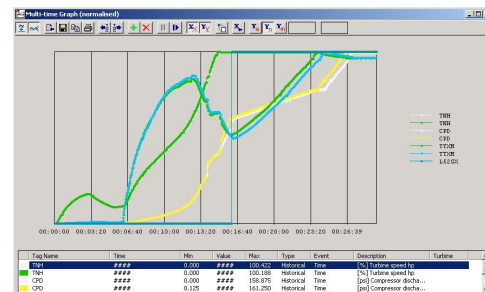
- Receives 600+ data points every second
- Thousands of fault detection checks
- Knowledge based analysis and diagnosis
- Easy to read fault manager display

OTHER KEY FEATURES

- ❑ TIGER includes a performance and monitoring package to track efficiency changes.
- ❑ TIGER has monitored over 200-fired years of gas turbine operation and has been used to investigate over 1250 faults.
- ❑ TIGER uses the existing sensors and does not require additional instrumentation.
- ❑ TIGER monitors a wide range of turbine sub-systems.
- ❑ TIGER includes extensive data display, trending and archive facilities.
- ❑ TIGER can be used remotely to monitor or troubleshoot gas turbines via a modem or network link.



Turbine Performance



Multi-Time Graph