



TEAMS Program

Turbine Evaluation, Analysis & Maintenance Scheduling

Background

The TEAMS program detects existing and developing problems in aging equipment, identifies their probable causes and determines corrective or preventive actions to help ensure reliable, efficient operation and cost-effective in-service and scheduled outage maintenance of your steam turbine generator.

By instituting a systematic equipment surveillance program with customized scope and timing for your equipment, the TEAMS program helps you plan your maintenance outages and minimize insurance premiums.

The foundation of the TEAMS program is a consistent, collaborative and a trusted OEM-customer relationship.

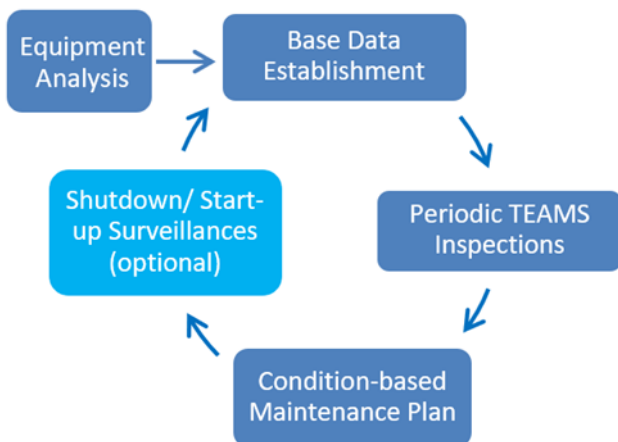
Our expert TEAMS engineers are your “outside” set of eyes and will recommend condition-based monitoring and a proactive maintenance program to identify and solve problems, helping you avoid costly unplanned downtime.

A GE dedicated TEAMS engineer will also highlight where the steam turbine generator operation or parts may be at risk, based on data collected from their instrumentation set, which can better inform your business decisions.

Solution

The TEAMS program provides steam turbine generator equipment owners with a cost-effective, condition-based maintenance program that consists of the following segments:

Features



The TEAMS condition-based monitoring and maintenance program is fully customizable to meet your specific needs

Equipment Analysis

The TEAMS Program begins with a careful study of your equipment and plant conditions. Your TEAMS engineer will also check your station instruments to make sure they are being maintained and in good working order. Any deficiencies are noted, such as instrumentation that is out of calibration, or lack of instrumentation.

Throughout the equipment analysis, your TEAMS engineer will systematically collect data using an independent set of TEAMS tools, for comparison with base or previously acquired data.

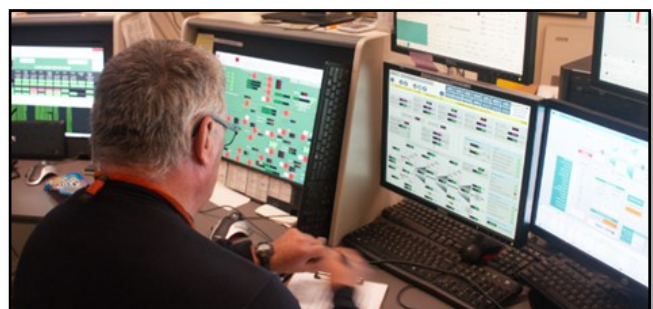


TEAMS data probe setup

Base Data Establishing

Once equipment is placed on the TEAMS program, baseline data establishes a reference point from which all future comparison of equipment performance and auxiliary system monitoring are evaluated.

Base data should be established as soon as normal stabilized operating conditions develop after original start-up (for new equipment), or after a major internal inspection.



TEAMS base data Collection

Periodic TEAMS Inspections

This is the heart of the TEAMS program. Typically, it consists of two or three regular TEAMS inspections per year while equipment is in operation. Four different TEAMS inspection types can be requested, depending on your equipment needs during maintenance and lifecycle:



Checkup: Visual inspection and operational data collection (~1 Day)



Lite: Mostly Mechanical evaluations (~2 Days)



Base: Mechanical and thermal evaluations (~3 Days)



Max: Mechanical and thermal evaluations and maintenance planning (~4 Days)

The data recorded is compared with operation base data to identify and evaluate deteriorating trends or pinpoint significant and persistent changes in operating parameters for the steam turbine generator and its auxiliaries.

Condition-based Maintenance Plan

Once your TEAMS engineer assesses the condition of your equipment, they will provide a maintenance program recommendation that considers our knowledge of your turbine and process design judgement. This recommendation allows more precise planning and scheduling of maintenance activities, focusing attention on components or systems in the greatest need of inspection.

A condition-based maintenance plan with established inspection intervals for the steam turbine generator and its auxiliaries can then be tailored to suit equipment condition and time available.

Shutdown and Start-up Surveillance (optional)

This optional TEAMS offering allows your TEAMS engineer to collect data and observe your equipment under unusual operating conditions, such as devices that cannot be tested during normal operation.

By performing checks as the equipment is being shut down, your engineer can propose corrective measures to be executed during a planned outage. Start-up checks cover the same areas as shutdown data and observation, but also allow observation following outage work.

Benefits

With GE's fleet-wide experience and a close working relationship with equipment operators and maintenance personnel, you can expect the TEAMS program to:

- **Increase production time** by identifying potential equipment issues early and mapping out a repair and maintenance plan
- **Increase plant reliability and availability** by extending major outage intervals based on assessed equipment condition
- **Lower overall maintenance costs** by avoiding unplanned outages and through condition-based maintenance
- **Improve maintenance and parts planning** by prioritizing equipment conditions observed and early identification of replacement parts needs
- **Reduce long-term costs** by providing periodic turbine performance evaluations and regular equipment operation surveillance

Applicability

A TEAMS Program can be created and customized for equipment-specific or a fleet-wide agreement for all GE OEM and other OEM steam turbine generators, in any industry.

References

GE started with TEAMS Inspections in the early 1970s and has performed several hundred TEAMS surveillances for individual sites, or as part of customer agreements that included a fleet wide condition-based maintenance program.

Majority of references are in the USA. *The program was previously named Steam Turbine Evaluation Program (STEP).*

To learn more about this offering, contact your GE sales representative or visit us at www.ge.com/power or www.ge.com/power/services/steam-turbines/industrial

