GE Power

BEAMS Program

Boiler, Environmental, Analysis & Maintenance Scheduling

GE’s deep dive approach towards risk management: optimize maintenance spend while protecting reliability and environmental compliance

Manage Availability and Reliability
- Extend major outage intervals based on assessed condition and performance trending
- Identify inspection needs based upon condition and inspection history
- Prioritize maintenance based on risk and early identification of replacement parts needs

Manage OpEx and CapEx
- Lower maintenance costs by avoiding unplanned outages and condition-based maintenance
- Avoid long-term costs through regular equipment operation inspection and surveillance
- Predictive models

Optimize Operation
- Performance: Current vs design operation
- Optimize emissions compliance over load range
- Achieve emissions compliance in an increasingly variable and stringent regulatory environment

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

The BEAMS program is intended to be a deep dive which detects existing and developing problems in aging equipment as well as operational performance deficiencies, 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 boiler and Air Quality Control Systems (AQCS) equipment.

By instituting a comprehensive full system surveillance approach, the BEAMS program identifies your highest at risk components and helps prioritize your maintenance plan. The program can be customized to suit your needs.

Our expert BEAMS engineers are your “outside” set of eyes to make condition-based recommendations to identify and solve problems, helping you avoid costly unplanned downtime. The GE BEAMS engineer can assist you in making informed, data-based, business decisions.
Program Description

Base Data Establishment
Once equipment is placed on the BEAMS program, baseline operating data establishes a reference point from which all future comparison of equipment performance and auxiliary system monitoring are evaluated. Baseline 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. GE is a certified compliance program provider. Needs will be established as part of base data establishment.

Operation and Equipment Analysis
The BEAMS program begins with a one day walk down and operational audit by an experienced GE Service Engineer. Scope includes equipment walk down and audit, collection of operating board data, external inspections, entrance/exit briefing, report and recommendations. The audit concentrates on the detection of deteriorating trends and conditions, and the identification of probable causes for preventive action.

Condition Assessment
Once GE’s field engineer assesses the condition of your equipment, they can provide a recommended maintenance and inspection program focused on eliminating risk to equipment health, optimizing plant performance, and maintaining environmental compliance.

Condition assessment of plant steam/water piping is vitally important in the industry and has become a focal point of insurers. GE’s BEAMS program can help you monitor and maintain the health of this high energy piping from damaging creep and flow assisted corrosion issues.

Planning and Maintenance
The BEAMS deep dive approach optimizes reliability against spend when planning maintenance activities by identifying areas at greatest risk to productivity.

Reporting
A report will be generated at each phase in the program which incorporates the recommendations from the previous steps to form a systematic program. The resulting report becomes a guide to keep plant/fleet production running optimally. Pertinent outage and close out reports are updated and delivered for specific work performed. Reports are ALWAYS available to the Owner.

Periodic BEAMS Inspections
BEAMS inspections should be conducted 1-2 times/year. Different BEAMS inspection types can be requested depending on your equipment needs during maintenance and lifecycle.

After the BEAMS program 1-day walk down operational audit is complete and baseline has been established, you can design the level of support to meet your specific plant needs. For example, a program may include a service program for mechanical systems, you could expand to basic program with both mechanical and thermal evaluations or maximize by including mechanical, thermal and maintenance planning.

A BEAMS program can be created and customized for equipment-specific or fleet-wide agreement for all GE OEM and other OEM boiler and AQCS equipment in any industry.

References
GE has provided inspection, analysis and advice for decades as part of new equipment and upgrade commissioning. GE has always prided itself in continuous improvement to provide best in class field support and products optimized from an O&M perspective.

To learn more about this offering, contact your GE sales representative. Also check out GE’s sister program for your turbine, TEAMS.