

System Management

Solution Overview

System Management covers the following four main areas (available individually or in combination).

- System Health (software)
- Equipment Health (hardware)
- System Calibration
- Technical Information Letter (TIL) Management

These services are focused on keeping the System 1® operating to our Best Practice standards. These four services combined can ensure that any System 1® users have access to the data at all times, and that the data stored is optimum for the current operating conditions. The four services available are as follows:

System Health (software)

The System 1® database (data storage) requires proper management to make sure that it operates at peak efficiency, ensuring superfluous data is not stored in the system. It is an industry-accepted best practice that any software system should have defined backup and archive programs. GE provides database management assistance for the System 1® servers either during site visits or by remote connection. This includes actions and recommendations regarding data archiving, storage media allocation, and configuration adjustments as follows:

Change Filtering

- Determines optimal change filtering and data storage settings
- Dynamic data sampling settings
- Transient data collection settings

Database Sizes and Status

- Determines database condition
- Optimizing database sizes; dynamic data sampling settings

Firmware/Software Management

- Managing monitoring system firmware changes
- Monitoring System 1® software version and update changes

Backup and Archive

- Using database tools/display software
- For reference/database cleanup
- Using SQL Enterprise Manager

Value

Improved Data Trend History – Ensures that the optimal data is stored and maximizes the amount of historical data that is available, thus ensuring a longer machine history.

Increased Data Accuracy and Availability – Ensuring data collection is optimal to machine operating modes, and no events are missed. Increasing the accuracy and availability of the data.

Increased System Integrity – Ensures the system operates with the most current (defect free) software available, increasing the security of the stored data.

Increased Data Security and Integrity – Ensuring that the backups and archives are available and up to date increases the security and integrity of the stored data.

Equipment Health (hardware)

Integrity of the data is vital to the success of any Condition Monitoring system. Undetected failures of field sensors or failure of communication modules can render the system unavailable. GE Bently Nevada's team can proactively monitor and advise the customer if a hardware related problem arises. Either following a Health audit or driven by a System 1® notification (see below), the Site Lead will send a notification to a site nominated person/system and enter an "open action" in the event of any of the following:

- Vibration sensor failure
- 3500 to System 1® communication failure
- Server failure

Should the installation provide SMTP server/email, the System 1® can be configured to send an email advisory to a customer nominated person and the GE Site Lead should an issue occur.

Value

Improved Availability – This option substantially reduces the risk of undetected equipment failures of field sensors, monitors, System 1® software and System 1® Servers while at the same time improving the availability of hardware.



Reduces Downtime – Provides advisories when equipment does fail, reduces the potential downtime of the monitored equipment.

Improves Data Availability – Substantially reduces the risk of a machinery failure/incident when the appropriate data is not available.

System Calibration

Machinery/Asset management systems that are continually calibrated to fit each application provide the best value. The System 1® configuration holds information on the assets covered, including machine/asset geometry, nameplate data, bearing/coupling types, and maintenance history. Calibration includes enabling and fine-tuning the advanced features within the System 1® platform to fit asset type and operation as new or updated reference data becomes available in the system.

The typical parameters that are reviewed and changed according to the operational condition of the specific machine include:

- Setting and/or adjusting sampling parameters.
- Bearing clearance boundaries storage and updates
- Start-up and shutdown plots creation
- 1x/2x Acceptance regions, so correct software alarms are generated
- DC Gap Voltage values storage/update for shaft center line plots
- Baseline and conditional baseline storage and updates
- Slow roll vector storage and updates
- Setting correct frequency regions for synchronous and asynchronous plots
- Setting software setpoints/process data set points
- Reviewing vibration filter settings where appropriate
- Auditing system alarm and event list
- Creating asset specific plot sessions such as bar graphs for key parameters, multivariable trends for past specific periods for key parameters (e.g., input/output temperature and pressure, flow, etc.)
- Update of asset specific documents, such as maintenance reports, etc.



Value

The monitored equipment is dynamic and changes in operation and condition over time. System calibration assures that the system is always configured optimally for the current condition of the equipment and ensures the following:

No Transient Events Missed – The system settings are adjusted for optimum data collection, ensuring transient events aren't missed.

Continual Updating and Improvement – The system is updated with any machine related changes (maintenance work, upgrades and parts replacements), assuring the accuracy of the system (plot groups, baselines, bearing clearances) and where appropriate, providing new functionality.

TIL Management

Technical Information Letters (TILs) provide owners of GE Energy products or project solutions with information on known issues. These notifications contain a clear description of the issues and provide advisory and/or technical recommendations on how to resolve the issues.

- All Bently Nevada TIL's (sensors, monitoring and diagnostic systems) will be logged and saved in System 1®
- Site Lead will discuss required actions with the site nominated person.
- Site Lead will ensure all TIL actions are entered into the required Work Management or CMMS systems.

Value

Provides the customer with a point of contact and assistance with the management of TILs that may affect the operation of the GE Bently Nevada equipment.

Please contact us for detailed information and quotes:

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