

WindSCADA* Software Upgrade and Subscription

Introduction

GE Energy's wind business continually invests in the WindSCADA platform to increase the functionality of the plant level SCADA system. The SCADA system improvements allow a wind plant owner to improve the operations and maintenance of the wind farm. To enable customers to take advantage of the latest WindSCADA enhancements, GE now offers an upgrade to the latest version of WindSCADA with an option of an annual subscription service to update the WindSCADA software with the latest version once every year. As part of the WindSCADA upgrade or subscription option, GE provides the latest version of the turbine control system software that enables customers to take advantage of improvements resulting in increased availability and reduced turbine faults.

Applicable Platforms

1.5s, 1.5se, 1.5sl, 1.5sle, 1.5xle, and 2.x wind turbine generators.

Technical Description

GE's WindSCADA system provides a broad set of intuitive tools for operation and maintenance of the wind power plant. From production reports to wind turbine monitoring and control, these tools meet the needs of the operator, maintenance staff and owner.

Operator/Technician Maintenance Tools

The WindSCADA viewer application is used for operation and maintenance of the equipment. This viewer is accessible from any wind turbine as well as from the operations and maintenance building. It also can be used remotely with a secure Internet connection or a telephone line. To address the ever-growing security requirements in SCADA systems, user access control is integrated into the entire system and provides an audit trail for all activity.

Owner Tools

A large set of production and maintenance reports are available to enhance the owner's ability to drive productivity across all aspects of the wind plant operation.

In an effort to improve wind plant operation and maintenance and increase productivity, GE continuously improves the WindSCADA software through advanced product development. In the most recent software version, there are several enhancements that can help to identify turbine performance issues so that they can be addressed proactively.

GE recommends that wind plant owners periodically evaluate their installed WindSCADA software version and upgrade to the latest version to improve site productivity. To stay current with the latest SCADA advancements, GE makes it simple to update your software through our WindSCADA Software Subscription Program.

Benefits

GE's continuous investment in the WindSCADA platform results in new features and functions on an annual basis. An example of the recent advancements is shown in the table on the next page. The software subscription program ensures that the latest software version is installed on the SCADA rack, allowing you to improve the operations and maintenance of your wind plant.

GE's continuous investment also extends to the TurbineCONTROL software. By utilizing unmatched fleet experience and product development, the TurbineCONTROL software is continually improved to provide increased availability through reduced fault occurrence.

Those upgrading from the VisuPro Park plant level SCADA system to the latest version of WindSCADA will see significant advancements. GE's WindSCADA system provides a fully integrated plant-wide, easy-to-use user interface for real-time operational control and data visualization for the complete plant, including all of its major components. Unlike the VisuPro Park system it replaces, GE's WindSCADA system provides access to the met mast, wind plant controller and substation data. In addition, GE's WindSCADA system sets an industry standard with its highly reliable plant-wide operational database. This significant addition enables plant operators to access plant-wide data from one historical repository and generate reports that assist in operations and maintenance of the wind plant. Other features of WindSCADA include standard interfaces for integration with enterprise data systems, preconfigured operations and maintenance reports, secure user access, remote access, and multi-language support.



Scope of Supply

- WindSCADA hardware upgrade (if needed):
 - SCADA cabinet with servers, UPC, historical database
- WindSCADA software upgrade:
 - Latest version of GE WindSCADA software
 - Latest version of GE VisuPro Plant
 - Latest version of TurbineCONTROL software
- WindSCADA software subscription:
 - Ongoing annual updates of GE WindSCADA, VisuPro Plant and turbine control software

Scope of Work

- WindSCADA hardware upgrade (if needed):
 - Upgrade SCADA hardware to support latest WindSCADA software release
- WindSCADA software upgrade:
 - Remotely (or in person, if needed) install latest version of WindSCADA, VisuPro Plant and turbine PLC software upgrade
- WindSCADA software subscription:
 - Remotely (or in person, if needed) install WindSCADA, VisuPro Plant and turbine control software update once every year for the duration of the subscription period

GE WindSCADA Feature Evolution

Functionality/Feature	Version 2x	Version 3.0, 2007	Version 2008A/B
Plant Management Tools			
Real-time operational control and data visualization	✓	✓	✓
Enhanced data visualization and customized screen layout		✓	✓
Web based site overview for easy remote access			✓
Diagnostic and troubleshooting tools for rapid fault resolution			✓
Audible alarms			✓
Support for ESS Turbines			✓
Historical Database and Reporting			
Industry Standard, SQL historical database	✓	✓	✓
Highly flexible preconfigured (>15) operational and maintenance reports	✓	✓	✓
Web based reporting system		✓	✓
Enhanced reports (Enhanced Plant Efficiency, Wind Rose, Combined Command and Event Report, Fault Analysis with categories)		✓	✓
Export report data to other formats (e.g., Excel, csv, html, pdf)		✓	✓
Enhanced graphics and charting			✓
Other			
UPS Support	✓	✓	✓
Scalability		✓	✓
SCADA system monitoring tools			✓
Standard Interfaces (OPC, ODBC)		✓	✓
In-turbine SCADA Solution			✓
Wind Forecast Interface			✓



Contact your local GE Representative for assistance or for additional information or visit www.ge-energy.com/wind.

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