



AMA-IEC-DataSolution

Tool to Increase Energy Efficiency Using the Advantages of IEC 61850 and IEC 61400-25

WIND

- A volatile natural resource that is beyond our means to control
- A valuable natural resource for the production of clean renewable energy

WIND-ENERGY CHALLENGE

In several countries upcoming regulations will force wind farm operators to plan, adjust and control the production of energy to reflect the actual demand by consumers and industry. Utilizing wind energy is a challenging task due to the volatile nature of the resource. Optimizing the production of energy from an uncontrollable resource requires detailed planning and precise control of the systems. Achieving cost effective control requires secure access to all the available information of the system and utilization of open international standards.

STANDARDS

Beginning in 2003, the IEC 61850 series of standards for substation automation and the IEC 61400-25 standards for describing wind energy systems have been published and are actively being used by industry. Due to the world-wide focus on the utilization of renewable energy, these standards have become more important to implementing open systems for wind energy. AMA-SYSTEMS offers hardware and software products for the integration of these standards into wind energy solutions.

SOLUTIONS

Based on the IEC 61400-25 standard, AMA-SYSTEMS has developed a product named “AMA-IEC-DataSolution”. Using this new technology, AMA-SYSTEMS can offer upgrades to existing wind turbines that enable them to be monitored and controlled in combination with new wind turbines of different manufacturers. This enables the wind farm operators to integrate their systems in short time by using the unified data structure of the IEC 61850 and IEC 61400-25 standards.

The AMA-IEC-DataSolution works with all standard-conformant products that are available on the market today to integrate devices based on IEC 61850 and IEC 61400-25 for monitoring wind energy systems. The wind farm operator will be able to transmit all relevant data in a consistent way to SCADA systems while monitoring and analyzing the information from several countries and different wind farms f a central control system in a unified way.

AMA-SYSTEMS is offering additional solutions to integrate the IEC 61850 and IEC 61400-25 standards into OSIsoft’s PI System and IBM’s business intelligence (BI) systems. Because AMA-SYSTEMS solutions are based on international standards the unified analyzing of data from other sources of electrical energy including solar, hydro-power, and nuclear energy is also possible. Thus, information will be transparently unified and compatible since data from all energy-related sources will be available in a consistent way. Planning and controlling the energy production of wind farms for maximum reliability will be feasible in a more efficient way in the future using AMA-SYSTEMS solutions.