Telecontrol systems for renewables: from systems to services

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Abstract

Investments for renewable energy plants are mostly focused on plant realization but operation and maintenance are also a crucial issue. Performance of the plants is strictly related to a well-performing O&M. Now, more than ever, Owners of renewable energy plants need to operate and maintain the plants reducing as much as possible the related operational costs.

This article describes a new approach where the added value to be proposed to plant owners is not a system to monitor & control the plants but a value added service. In this new scenario, plant owner do not need to take care of maintaining the system itself and can get benefits from an Operations & Maintenance (O&M) system without huge investments but just paying for a yearly based service. This approach lets also the owners of small plants to benefit of such service, where a system investment is not justified. In this way companies can propose a new service based approach to the clients and a new portfolio of added value services to the customers.

Introduction

Today, the justification of plant budgets is not only based on engineering criteria related to Operation and Maintenance (O&M), but they have become increasingly more focused on Return on Assets (ROA).

The primary task of asset management is to reduce costs by identifying performance problems, improving predictive maintenance, extending asset lifecycles, and most of all, developing solid business plans for investments. This requires services for lifecycle costing, which implies cost minimization starting with the initial investment, continuing through the lifecycle of the equipment, and ending with recycling or evolution to the next equipment generation. These services typically consist of:

- Monitoring the condition and identifying performance problems of assets.
- Reducing downtime by predictive maintenance
- Optimizing asset lifecycles and evaluating the impact of asset failure.
- Having access to service engineers and product experts.
- Ensuring compliance to safety and security regulations.

Using state-of-art automation, web and cyber security technologies, it is possible to offer and implement such services from remote Service Centers. Such remote services optimize the operation and maintenance activities by providing proactive solutions which avoid production downtime and improve performance. Remote services also provide significant benefits by making it possible to connect the best (or most familiar) service engineers to the customer quickly and determine the necessary actions efficiently. The benefits of an on-site visit are extended. This paper illustrates basic aspects and advantages of remote Service Centers for renewable energy plants.