Workflow: Issues are Common, Effective Responses are Not

Mark Brown
Yokogawa Electric Corporation
Business Development

The operating processes, procedures, communication standards, and technology must form the foundation of a workflow that enables organizations to maximize the value of their assets.

Whether a portfolio consists of entirely new assets or a is mix of new and existing technologies, renewables operators will inevitably experience issues that affect the value of those assets; reams of data and reports will not resolve these issues.

Without workflow, operators will lack a clear understanding of the asset base. This leads to inefficiencies. The inefficiencies arise due to many factors: lack of accountability and/or responsibility, a lack of understanding and metrics around how time and action relate to value, inconsistent process procedures, information silos, etc.

The renewable portfolio is very busy with many operational and business activities taking place at once. Therefore, an operator needs a platform that empowers people to take accountability by providing them with the information they need—when they need it.

A good asset performance management (APM) platform integrates operational data, commercial data, weather data, and other data sources with business applications to help the team make the best decisions, given roles and responsibilities. When staff is not empowered in this way, accountability deteriorates to blame shifting as each individual's ability to affect change is minimized.

It is also very important to understand the relationship between time, action, and value. Leveraging an APM platform that is commercially oriented and tightly integrated with operational automation and information provides the ability to understand the value of each potential action. This helps operators anticipate the cost of a truck roll for a given repair compared to the expected value created when the asset is returned to optimal service.

Not every issue presents the same risk profile or value proposition.

It also helps organizations stay on top of various inefficiencies or performance issues across their fleets—and their aggregation costs. Assets that are only slightly underperforming often will not stand out or trigger an alert because they are within traditional monitoring parameters. However, if many of these conditions exist across the portfolio, the operation is losing money. Management must know exactly how much.

A renewable operator's APM should provide native or easily integrated capability to define repeatable processes that are associated with operational and contractual parameters. If the APM is available internally and to third party service organizations, operators can be sure to take actions in a timely fashion and on specification, thus helping reduce inefficiencies. For example, the Southwest Airlines fleet consists exclusively of Boeing 737 aircraft, so Southwest Airlines has been able to minimizes O&M costs by standardizing on parts, processes, and procedures.

Another key component of any workflow is the ability to share knowledge. Usually, this comes in the form of a knowledge base. The portfolio will experience many of the same types of issues across multiple sites and/or OEM technologies. The ability to capture actions taken and results achieved for each of these situations is key to an efficient workflow.

Documented cases can be referenced to more quickly and effectively address similar issues in the future, to support warranty claims, to identify serial defects or conditions, and even to allow an understanding of the issues with the greatest financial impact. This enables informed decision-making on many levels.

This allows validation of actions taken and resulting outcomes. Furthermore, it exposes processes in need of change, which can ultimately increase asset value. A good APM platform allows organizations to quantify the operational and commercial value in addition to the impact that workflow has. That information can be used in a continuous improvement loop to make the APM a better decision-assist tool.

In this series, we discussed the limits OEM automation presents at the project level, the importance of data availability and quality, the challenges in understanding a mixed portfolio of generation and automation technologies, benefits of AI/ML, and why workflow might be the most under-appreciated and foundational aspect of all.

Data has a great influence. It has an impact on everything. Data truly is the foundation that builds value in the portfolio. However, like a turbine blade or a solar module, data alone does not guarantee project success.

It is important to understand the impact that workflow has and adapt it continually to capture the total value of the asset base.

To maximize the renewable asset portfolio value, operators must consider the integration of multiple technologies and capabilities. To address this need, there are OEM-agnostic and technology-agnostic solutions ready to leverage today. Consider the Yokogawa REDI platform. REDI is a powerful hardware and software overlay, which, through a collaboration with Power Factors, provides a comprehensive workflow solution for renewables.

Yokogawa REDI has a heritage from over 100 years of experience in industrial automation. REDI integrates seamlessly with the Drive Platform—Power Factors' proven asset performance management software. Yokogawa's REDI technology combined with the Power Factors' Drive APM platform provides an end-to-end solution for the renewables industry: from sensors, control/automation, enterprise integration capability and data acquisition to advanced analytics, AI/ML integration, and field service management (CMMS).