

# USING TURBINE DATA TO DRIVE STRATEGY

*Salvatore A. DellaVilla Jr., CEO of Strategic Power Systems (SPS) discusses recently announced partnerships and what they mean for SPS, as well as turbomachinery trends and predictions.*



## Tell our readers about SPS.

The SPS philosophy is data first. Data is what we do. We are experts in the field of data collection, validation, analysis and benchmarking of power plant performance across various technologies. We provide key performance metrics (KPIs) based on industry standards to power plant owners, operators, OEMs and other stakeholders through the Operational Reliability Analysis Program (ORAP).

This information allows them to make informed decisions relating to the performance and operational readiness of their equipment. There is no system in the world that collects power plant data in such a comprehensive way as ORAP.

## What kind of insight does ORAP provide?

I believe the issue of starting reliability, fast start, load following, tracking cycles and other measures of life or age are at a critical juncture. As an example, I don't have confidence in the data that I see on starting reliability or even the time to start.

If the data comes from human input it is usually fraught with error. We have access to the process data. It needs to be used to better understand equipment capability in order to establish more meaningful expectations. We recently signed an agreement with OSISOFT and MapEx Performance Monitoring (MapEx), which will help us to provide even greater insight when combined with our ORAP numbers.

## What does OSISOFT bring to the table?

OSISOFT is the maker of the PI System, which has resulted in ORAP Asset Insight. This service leverages the data historian the majority of plants have at their sites to capture near real-time process data points for transformation into more easily understandable aspects of time, capacity, age and events.

The transformation process turns the data captured and stored in the PI data tags into the data needed to understand the reliability, starting reliability, availability and other key performance metrics. This helps plant manager to view how their equipment is performing from start-up to a safe shutdown and everything in between.

ORAP Asset Insight, therefore, is a productivity improvement that reduces the effort operators or maintenance engineers need to track data and frees them up to keep their focus on equipment readiness. Data fidelity is improved along with the timeliness of information and reports.

## What does MapEx add?

With MapEx as a partner, operating plants can now more directly tie their equipment reliability performance with their plant's thermal performance. For the first time, the maintenance data in ORAP can be integrated with thermal performance indicators to drive strategies. This helps to ensure that any degradation experienced that drives a lower level of efficiency or a higher heat rate can be addressed and identified as recoverable through cleaning or, if required, through maintenance.

The direct relationship between thermal performance and component life can now be assessed, tracked and more effectively managed. The goal is to provide owners and operators with a valuable and informative capability that helps them drive down their maintenance costs, focuses them on achieving their required levels of availability and reliability, and allows them to optimize critical part lives.

## What does SPS gain from this agreement?

It provides us with the most efficient, timely and cost effective process for reporting to ORAP. Data reporting is time consuming, mundane, error-prone and creates a vacuum in the need for reliable information for effective management of turbomachinery. This agreement, therefore, makes reporting to ORAP simple and efficient.

This is in response to the many changes taking place in our market, and the expectation for equipment performance. If we need ten-minute starts, or we need load following with rapid ramp rates based on market signals or longer maintenance intervals for hot gas path parts, the requirement for high fidelity data is the driver.

This agreement, then, offers SPS an opportunity to support both owner/operator and OEM needs for higher quality RAM KPI's to validate performance or drive change to achieve performance expectations.

## What does this hold for the future?

Big data and data analytics are the future. Unless we do more than remotely monitor plant performance, which is a person-intensive process, and unless we transform the near real-time data into elements that we can easily comprehend, we will lose the chance to drive the highest levels of RAM and thermal performance. The opportunity for effective use of data is now, and I believe that the approach that we are taking with OSISOFT and MapEx is just the beginning.

## What predictions would you care to make?

The drivers of the future will be no different than what we see today: Fuel is a regional driver; higher levels of combined cycle thermal efficiency; price and performance, in that more is expected from the equipment that is installed for the anticipated life time.

However, the market is too diverse and too regionally challenged to generalize. But the impact of renewables has placed additional challenges on the market. Information is required to drive a generation mix that has long-term value for all of us. 