



## Case Study: PacifiCorp Energy

### NEED DECREASED RECOVERY TIME

Our challenge was to implement an Alarms and Events server that extracts and stores event data from the Sequence of Events Recorder in our PLC controls system. Once that was in place, we needed to install a client application to view the stored alarms and events data.

Many alarms are generated when a Generator is suddenly stopped. Our Scada system did not provide accurate event time stamp of the alarms or store the alarms for later use, noticeably increasing recovery time from an unplanned shutdown, leaving us unable to meet demands for power, and incurring significant down-time costs.

The ability to analyze concrete data from alarm related events would enable our engineers to provide support with confidence and ultimately to shorten the length of the shut down.

### COST EFFECTIVE SOFTWARE SOLUTION

Several factors led us to purchase and install Matrikon A&E Archiver for storing alarms and events.

- Our overall satisfaction with other OPC servers used at our Hydro Control Center facility
- We have sequence of event recorder modules in our PLC controls system
- A software solution would be significantly less costly than a proprietary hardware system

The MatrikonOPC A&E Historian is a Sequence of Events (SOE) database that collects and archives time-stamped, text-based information from any device that can send information using serial, TCP/IP, printers, network printers, or OPC A&E. The A&E Historian is perfect for merging DCS alarms and events, logging network events, replacing sequence of event recorders, loggers, or any other type device that sends text-based messages.

We also purchased and installed a modified version of MatrikonOPC Server for Modbus. This OPC Server is modified specifically to communicate with Monaham's sequence of event modules in the Modicon Quantum PLC control system connecting and reading 256 to 512 points for alarms and/or status. This software serves up the raw data from the data sources into the OPC A&E Historian. We are using Intellution iFix as our HMI client application.



**Figure 1** - Beldavid Tan, P.E., Senior / Lead Engineer - Hydro Resources, PacifiCorp Energy



**Figure 2** - PacifiCorp MatrikonOPC Solution

### QUICK EASY IMPLEMENTATION

The application performed impressively in our test system. We've since installed a system at the JC Boyle plant in Oregon and it is performing equally as well.

The software modification and implementation went very well because we had clear objectives and sufficient information to do the design.

There were a couple of minor issues that were quickly resolved. One was the hand-shaking issue when extracting the data from the sequence of event recorder and the other was the rate of extraction.

The Matrikon personnel on-site for the implementation of our test systems worked with me on the implementation and training on the A&E Archiver, Viewer and the OPC server. They were very knowledgeable with the applications and were able to efficiently resolve problems which occurred during the implementation.

### REDUCED MAINTENANCE AND DOWN-TIME

We now have the ability to store and view events so that we can accurately and expediently troubleshoot the system in the event of an unplanned shut-down. With easy access to this data our engineer can provide confident support, reducing maintenance and down-time, quickly meeting the demands for power and avoiding lost revenue.

### FUTURE PLANS

Our long term outlook is to install the applications in all of the generation facilities.

### ABOUT PACIFICORP

PacifiCorp is one of the lowest-cost electricity producers in the United States, providing more than 1.6 million customers with reliable, efficient energy. PacifiCorp has more than 8,200 megawatts of generation capacity from coal, hydro, renewable wind power, and gas-fired combustion turbines and geothermal.

### ABOUT MATRIKONOPC

MatrikonOPC is the world's largest OPC company. MatrikonOPC is a charter member of the OPC Foundation. With a collection of more than 500 OPC products and interfaces and over 100,000 installations worldwide, MatrikonOPC is the world's largest developer, trainer and distributor of OPC products. For free downloads or more information visit [www.matrikonopc.com](http://www.matrikonopc.com).

