

# Alarm and event archiving speeds recovery from unplanned shutdowns

*A North American energy producer's 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. The company implemented a system to store and view alarm and event data from the sequence-of-events recorder in its PLC controls system.*

*The ability to store and view events lets maintenance personnel accurately and expediently troubleshoot the system. Easy access to data lets engineers provide confident support, reducing maintenance, downtime and lost revenue.*

A North American energy producer was challenged to implement an Alarms and Events server that extracts and stores event data from the Sequence of Events Recorder in its PLC controls system. Once that was in place, the plant was to install a client application to view the stored alarms and events data.

Many alarms are generated when a generator is suddenly stopped. The 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 it unable to meet demands for power, and incurring significant downtime costs.

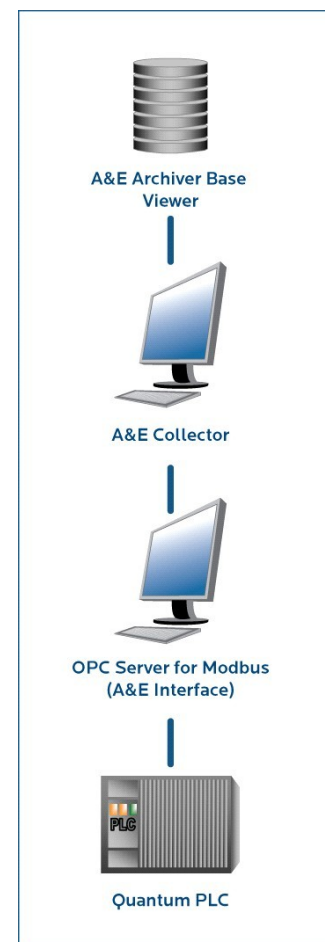
The ability to analyze concrete data from alarm-related events would enable engineers to provide support with confidence and ultimately shorten the length of the shutdown.

## Selecting a cost-effective solution

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

- Overall satisfaction with other OPC servers used at its Hydro Control Center facility.
- Existing Sequence of Event recorder modules in the 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 Event (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, and replacing sequence of event recorders, loggers or any other type of device that sends text-based messages.



The plant 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. Intellution iFix is being used as the HMI client application.

### **Quick, easy implementation**

The application performed impressively in a test system. The company has since installed a system at its newest plant and it is performing equally well.

The software modification and implementation went very well because there were 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.

Matrikon personnel on-site for the implementation of their test systems worked with the plant 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 that occurred during the implementation.

### **Reduced maintenance and downtime**

The energy producer now has the ability to store and view events so maintenance personnel can accurately and expediently troubleshoot the system in the event of an unplanned shutdown. With easy access to this data, engineers can provide confident support, reducing maintenance and downtime to quickly meet demands for power and avoid lost revenue.

### **Future plans**

The long-term outlook is to install the applications in all the company's generation facilities.