

# Integrated PLC and Power Monitoring System improves oil platform performance

## Power Distribution Solutions

### Challenge

This site is not quite like any other site on land. This customer site is an off shore oil rig in the Gulf of Mexico, whose primary job is to off load crude oil from tankers and transport, or store, the crude oil to other locations on land in the US.

This critical facility was upgrading their entire energy management system and motor control centers [MCC]. They were also looking for more integrated communications and information from the motor controls, as well as a compact footprint to meet their tight space requirements.

They had the standard needs of energy monitoring and control connections to each MCC starter bucket, but they wanted additional extensive information from their new MCC's. They wanted the dual redundant connectivity to be simpler using modern technology, such as a programmable logic controller [PLC] versus hardwired points to relays. They wanted to gain more information about the loading and health of their motor loads and to combine that information with Siemens power quality meters around the rest of the platform. All this equipment would be brought into a Siemens Power Monitoring system to provide them with details on the total loading and health of the electrical distribution system.

### Solution

Siemens provided the TIASTAR Motor Control Center, meeting all the needs of the customer. First, the starters each came

with the SIMOCODE Motor Management device that serves as the motor protection and control for the starter. But additionally, the SIMOCODE comes with PROFIBUS communications allowing the control and, as important, the operational, diagnostic and statistical data on the motor load to be transmitted to a central monitoring system. Each Siemens MCC was also provided with Siemens electrical power meter with Ethernet communications for overall loading data.

In addition to the SIMOCODE and Siemens power meters a new Siemens electrical power monitoring system [EPMS] was installed to meter the primary power for the rig and each MCC main. Siemens provided the technology and integration to have the operational and loading data from the SIMOCODE devices go over Ethernet to the EPMS, while simultaneously allowing full control of the SIMOCODE by the local PLC's.

### Results

The customer found the TIASTAR MCC compact and suitable for their tight platform square footage requirements. The SIMOCODE, prewired and installed in the MCC, made the controls integration with the PLC quicker and smoother.

The new Fieldbus Gateway hardware allowed the extensive operational and diagnostic data from the SIMOCODE units to be blended with overall MCC main and platform loading data into the Siemens WinPM.Net power monitoring software. This allowed management to diagnose the loading data, generate reports, without touching with the PLC control systems of the oil platform. This allowed the team to fine-tune the controls, modify loading schedules and maintain a complex system from one system.



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Smart devices of power distribution make plant wide integration easy resulting in the timely and efficient diagnosis of problems before a plant or process shut down. Additionally, Siemens products share a common global technology platform, which enable organizations to operate and implement branches worldwide.

## Reliable and precise monitoring of electrical power systems

Siemens Power Distribution Solutions recognizes that high performance facilities make for high performance business. Energy is the lifeline of your business, and better efficiency and sustainability can have a large positive impact on your bottom line.

and availability of your business. With our advanced meters and controls, you can be sure to use only the energy you need, when you need it.

The Energy Management and Control Systems from Siemens provide a complete enterprise solution that can help you manage the energy costs

Siemens Power Distribution Solutions can also contribute toward achieving LEED® certification and provides the needed energy metering data for federal/local government energy reductions programs.

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