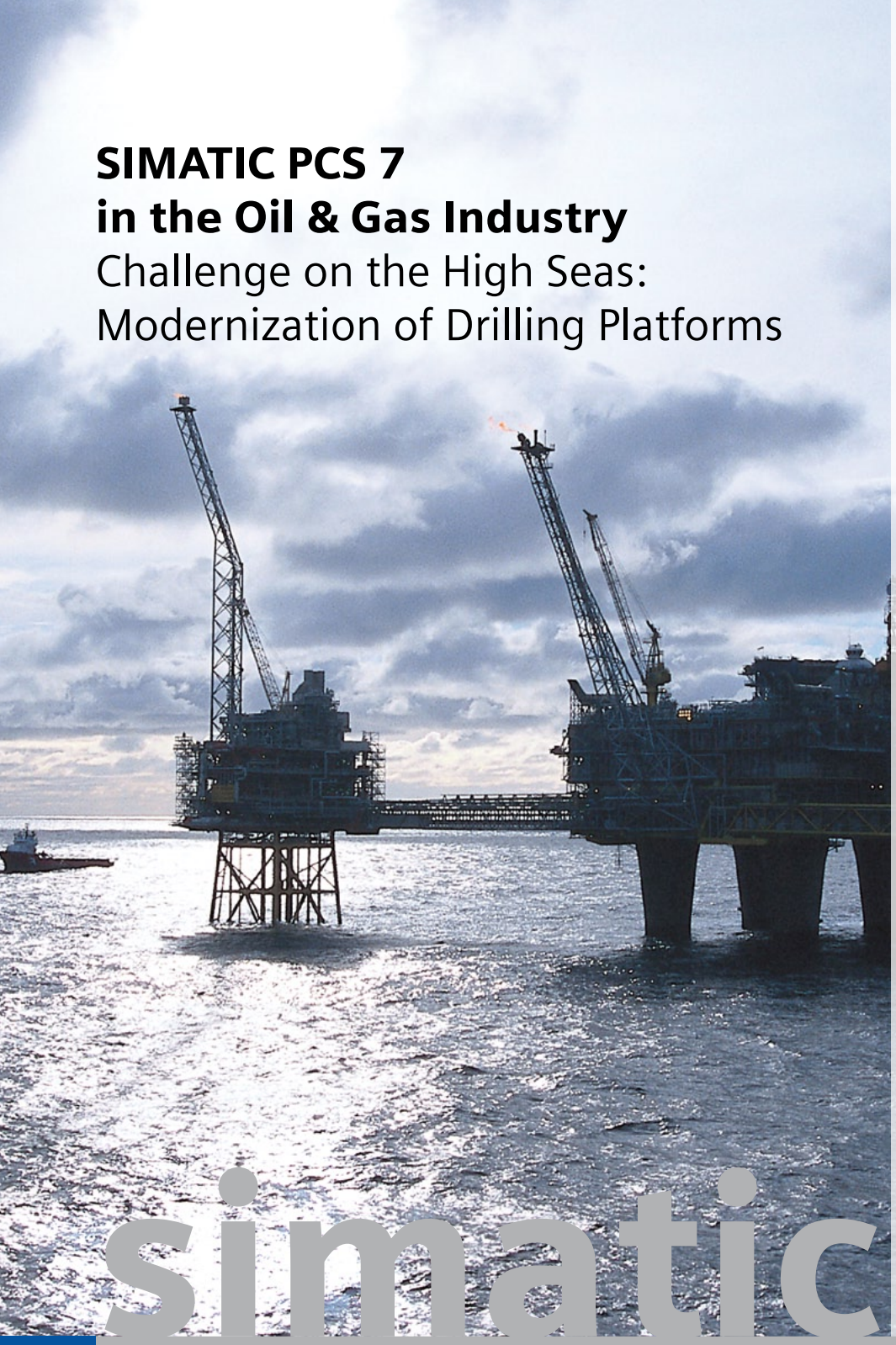
Application

SIMATIC PCS 7 in the Oil & Gas Industry

Challenge on the High Seas: Modernization of Drilling Platforms



PCS 7 Customer Benefits

- Optimized operation & monitoring thanks to innovative HMI functions
- Replacement of process and safety systems in runtime
- Increased failure safety
- Assimilation of existing field devices protects investment
- Remote engineering and maintenance

simatic PCS 7

The project is extremely ambitious: the control and safety systems on three drilling platforms of Hydro's Oseberg Field Center are to be brought up-to-date by the middle of June 2006. A special challenge for the selected process control system, SIMATIC PCS 7, and the experts from Siemens is that the migration has to be performed while the offshore system is in operation.

SIEMENS

Challenge on the High Seas: Modernization of Drilling Platforms

Since the beginning of the Norwegian mineral oil industry in the 1970's, Hydro has always been among the top producers of oil and gas in that country's offshore sector. Today, Hydro is one of the leading offshore companies in the world and is also ahead of the pack in developing new technology. The company is presently running 13 oil and gas fields off the Norwegian coast. The largest platform is the Oseberg Field Center, one of the most productive petroleum and gas fields in the country. Approximately 130 kilometers northwest of Bergen, its three drilling platforms produce around 150,000 barrels of oil and up to 30 million standard cubic meters of gas each day. Together with the adjoining oil fields that are connected to the Oseberg Field Center, Oseberg supplies 400,000 barrels of oil daily. A position that comes with obligations, not the least of which is operating safety.

To ensure that the safety and control technology meets the high demands both now and in the future, the company decided to undertake comprehensive modernization of the entire process automation as well as the safety and maintenance systems for the three drilling platforms. They chose the Siemens process control system, SIMATIC PCS 7, for the task. Not only did it offer integrated fail-safe technology, they were also convinced by the capabilities for operating and monitoring with optimized HMI functions – critical aspects when it comes to questions of safety and health. PCS 7 is also up to the greatest challenge presented by the complex project on the high sea – the migration of the system with approximately 38,000 I/O devices has to be performed during ongoing operation. The conversion from TELEPERM M, the control system used to date, means replacing 100 process and safety systems with the powerful 417F/HF controller and the installation of six redundant OS servers along with 50 new HMI computers.

Neither Siemens nor Hydro have ever undertaken a project of this scale and complexity. To ensure that the final offshore implementation is carried out without a hitch, experts from both companies are working hand-in-hand onshore adapting the "old" system to the "new" one. Bård Berle, Siemens' site manager in Bergen says about the operation, "This job on the high sea is much more complicated than simply replacing a controller on land. Therefore, we are building the new system in a room the same size and layout as the offshore control room to make sure it works perfectly before we transfer it to Oseberg."

The advantage offered by SIMATIC PCS 7 for this project is already clear. The offshore employees of Hydro testing the new system, are enthusiastic about the upgrade. "The system is much more modern, offering better visualization tools, and is more reliable. The new system will make our jobs easier."

Siemens AG
Automation and Drives
P.O. Box 48 48
90327 NUREMBERG
GERMANY

www.siemens.com/simatic-pcs7