Case note
Low Voltage System MNS R ensures high technology and compact layout in an offshore plant

Scope of supply
ABB S.p.A. (Italy) was selected by Rosetti Marino S.p.A., an Italian company providing solutions and services to the Oil & Gas industry, for the main Low Voltage electrical package of an important Wellhead offshore platform that will operate in Africa. The key of ABB success was the flexibility of ABB MNS platform and in particular of ABB MNS R version which integrates the complete range of solutions requested for this specific application (combination of withdrawable Air Circuit Breakers, Molded Case Circuit Breakers and Motor Starters) and grants an extremely compact layout. ABB MNS R was supplied with ABB S800 intelligent I/O modules as well as with multifunction protection and control relays type ABB REF 542 plus. All these devices are equipped with Profinet communication capability, in order to grant a complete integration with the platform control system.
Plant type
The plant is an offshore platform type Wellhead, general term used to describe the pressure containing component, placed at the surface of an oil well that provides the interface for drilling and production equipment.

The main purpose of a Wellhead is to provide a pressure barrier connecting the casing strings that run from the bottom of the hole sections to the surface pressure control equipment. Whilst drilling the oil well, the surface pressure control is provided by a Blowout preventer or “BOP”. In fact if the pressure is not contained during drilling operations by the casings, wellhead and BOP, a well blowout can occur.

Technical solutions
The ABB Low Voltage System MNS R suitable for rear cable connection, is the selected solution to meet the high technical and safety requirements needed by the owner and in particular to grant
- Segregation form 4b;
- Rear access for power and control cables;
- Complete separation from power cables and control field connections.

In particular the ABB MNS R for the platform was configured to host incoming bus ducts from the top and outgoing cables from the bottom of the assembly. The optimization of the layout was completed by taking the advantage of the ABB MNS R design that allows the installation of multiple Air Circuit Breakers in each vertical section with a relevant reduction of the overall foot print.

The supplied solution is suitable for heavy duty applications in harsh environment as requested for offshore installations and for this reason ABB MNS R was supplied with sleeved tinned copper buses to increase buses corrosion resistance as well as risks due to pollution levels in harsh environments.

Result and customer benefits
The ABB MNS R solution granted the maximum optimization between the need to reduce the overall foot print in offshore applications due to high square meter costs and the extremely high technical and safety requirements of the owner. The strict cooperation between ABB and Rosetti Marino S.p.A. was the key to take advantage of this ABB MNS R flexibility and completeness.

Withdrawable motor feeders with dedicated instrumentation compartment

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