

Case note ABB MNS *i*S The integrated solution for the WAGP project



Scope of supply

ABB S.p.A. (Italy), in cooperation with Lee Engineering & Construction Co (Nigeria) and Franzisella S.p.A. (Italy), is supplying a fully integrated solution for the WAGP (West African Gas Pipeline) project in Nigeria.

The two WAGP Gas Compressor Stations in Utorogu and Oben are based on the latest ABB MNS *i*S technology installed into prefabricated E-houses.

The ABB MNS *i*S is the right solution to comply with the high level of integration and compactness requested for the WAGP Utorogu and Oben Gas Compressor Stations.

The ABB MNS *i*S Power and Motor Control Centers for the WAGP project are fully integrated with the station DCS via serial link (Profibus DP protocol) and are built in compliance with Shell DEP standards.



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Plant description

Pipelines are the most efficient way to distribute gas and cover big distances especially in location with critical environmental conditions like deserts, glaciers, high mountains. To keep pressure and temperature of gas at the right level, Gas Compressor Stations are present and placed at 10 to 150 Km intervals along the pipeline. The low voltage MCC is one of the most important and critical component of those compressor stations.

The ABB intelligent MCC

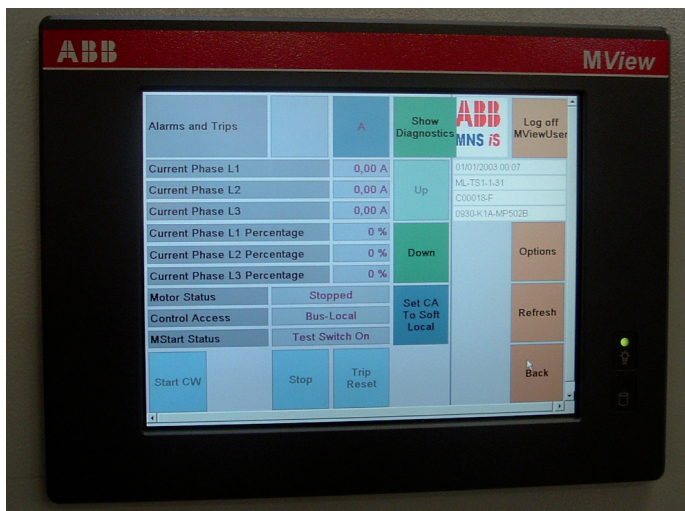
The project includes four ABB MNS *i*S Power and Motor Control Centers for a total of over 50 sections and 160 feeders in all kind of configurations, from the Direct On Line starters to the highest version of the ABB softstarters. In order to optimize the E-house layouts two of the ABB MNS *i*S where provided in back to back configuration granting a more efficient footprint.

MNS *i*S is the latest evolution of the ABB Low Voltage Power and Motor Control Center: the "Intelligent switchgear". The MNS *i*S intelligence is guaranteed by the complete integration and harmonization of all the different control, protection and data processing functions into the MNS *i*S concept.

The MNS *i*S network is based on distributed microprocessor modules (MControl) connected through a serial gateway interface (MLink) to a local Human System Interface (MView) and to higher level systems.

- MControl: the microprocessor unit performs all the protection control and monitoring functions and grants connection to and from each single feeder or motor unit.
- MLink: the MNS *i*S interface module grants connectivity from the local control modules to any higher system and to the local Human System Interface.
- MView: a local Human System Interface based on touch screen technology providing easy access to all kind of data and control functions.

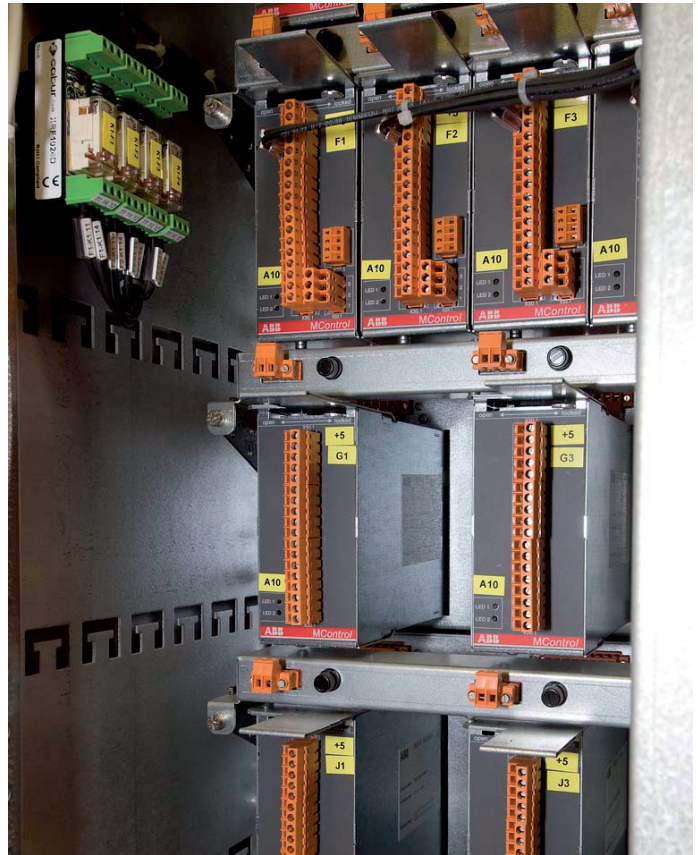
The use of the programmable microprocessor based technology in conjunction with a strong focus on the design optimization grant an overall reduction of the control and power components with the advantage of reducing potential point of failure and spare parts.



The touch screen of the Human System Interface MView.

Results and customer's benefits

As a result of all the integration and optimization activities, the WAGP Utorogu and Oben Gas Compressor Stations were delivered in prefabricated E-houses pretested and preset to minimize the field installation and start-up activities.



The microprocessor unit MControl.

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