

Company:
TETCO - MINISTRY OF
PETROLEUM
SUDANESE
PETROLEUM
CORPORATION (SPC)

Location: Ghadarif

Country: Sudan

Fully automated Control System for Loading and Unloading Gas Gasoil and Gasoline Products

REQUIREMENTS of the customer:

- 1 Monitoring of the inlet and outlet pressures, temperatures and densities of the inlet and outlet flow to the station as per the P&ID.
- 2. Monitoring of the pressure, temperature, density and level of product in the storage vessels as per the P&ID.
- 3. The control room provides basic monitoring of the process and instrument system (pressure switches, flow switches, flow meter, temp transmitter, level transmitter, level switches, discrepancy alarm etc.).
- 4. The programming and the configuration for the hardware and the software of the control system Shall be based on the operation philosophy.
- 5. The product metering which is connected to the control system shall provide measurement of receiving and delivering quantities. The mass flow meters are supplied with or without batch controllers. The control system shall be connected to total No. of 12 flow meters and Batch controllers via a Modbus serial link. Vendor shall confirm the type of the communication modules and memory requirements in able to host the total twelve items and perform read, log, print-out activities.
- Ensure Accurate Control and Monitoring System equipped with Data Logging and Management aligned with the system complexity in Safe and dangerous Zones.

BENEFIT of the customer:

Alarm Handling:

- 1- Checking data against alarm limits, testing alarm status inputs and generating unit and station alarms.
- 2- Interlocking logic with motor starters.

Reporting:

- Daily production report for the product
- On demand production report for individual product.
- Monthly production report for the products.

All the reports which may be required shall be to the satisfaction of TETCO/OWNER based on guidelines provided and approved by TETCO/OWNER.

Solution
Partner

Automation
Drives

The SIEMENS logo in its characteristic blue and white color scheme.

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Implementation:

- **Solution Partner** with its expertise was able to perform the correct and approved **Hardware Architecture** to include **Fail Safe CPU 315F-2 PN DP** with related **Standard and Fail safe IOS**. In addition, the system includes **Intrinsically safe barriers** for the dangerous signals that can be collected from site.
- **System Architecture** was based on **Simatic Manager** as development **Software** to control **Siemens S7-300 Families**. For **SCADA system**, **WinCC Software** did all the requirements in its flexible options **implementing alarming functions** **trending and archiving** no to forget **cyclic reporting** as per client requirements.



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