Scope of Supply

Ingeteam Industry carried out the complete turn-key project:

Total installed power 7,500 kVA

- Project coordination.
- Basic and detail engineering.
- Supply of Electrical Equipment, drives and process control system:
  - Low Voltage Distribution Boards.
  - Main Drive Motors - make INDAR -
  - Main Drive converters based on DC technique -MOTOCON DC-.*
  - Auxiliary Drives -MOTOCON AC-.*
  - AC Motor Control Center (MCC)
  - Peripheral devices:
    - Process Control PLC systems (-SISTEAM M-)*
    - Operation and Monitoring systems (HMIs) (-OPERATOR MT-)*
    - Technological Control Systems (AGC and HGC).
- Electrical Erection.
- On site commissioning.
- The following special sensors for TCS have also been integrated by Arania:
  - Thickness gauges
  - Position and pressure gauges

(*) The Sisteam M, MOTOCON DC, MOTOCON AC and OPERATOR MT are equipment designed and manufactured by Ingeteam Technology, S.A.

After Sales Services

- Hot-line service.
- Spare part availability in 24 hours.
- Direct dial to our engineers.
- Remote communication from our headquarters to plant automation system.
The DC motors are driven by modular MOTOCON DC TPS (Thyristor power supply) units.

These TPS converters, which are completely designed and manufactured by Ingeteam Industry, feature a fully digital control in conjunction with 3-phase thyristor converters, regenerative type, with current ratings ranging from 1000A to 3400A, for 400 Vdc to 690 Vac input voltage. Main characteristics are as follows:

- **Type:** MOTOCON DC
- **Power rating:** up to 2.8 MW
- **Voltage:** 400 to 690 Vca
- **Rectifier type:** Thyristors (antiparallel bridges)

The standard control panels along the mill together with visualization and supervision systems (HMI) provide easier handling and maintenance of the rolling mill.