

Scope of Supply

Ingeteam Power Technology, S.A, Industrial System Division is responsible for the electrical and automation equipment concerning the expansion of power transformer plant, comprising for following supplies and services:

- ✓ Project Management.
- ✓ Basic and Detail Engineering.
- ✓ Supply of the following equipment:
 - Medium voltage switchgears.
 - Low voltage distribution switchgears (LVD).
 - AC Motors / Generators (by Indar).
 - Main drives AC/AC (Sinamics type).
 - AC Motor control centre (AC-MCC).
 - Auxiliary voltage distribution + UPS.
 - Communication network.
 - Programmable logic controller (PLC- S7-300).
 - Human Machine Interface (WinCC).
- ✓ Erection Supervision.
- ✓ Commissioning.



PLC Cabinet



PLC S7-300



Win CC



Waukesha Plant

After-Sales Services

- Hotline Service.
- Spare parts in 24 hours.
- Direct line with our technical staff.
- Remote communication from our offices to the factory automation network.

Ingeteam

Expansion of Power Transformer Plant

WAUKESHA ELECTRIC SYSTEMS (WISCONSIN - U.S.)



Project Description

Waukesha Electric Systems, a division of SPX industrial products and services segment, is one of the largest U.S. manufacturers of medium and large power transformers and value supplier of transformer accessories.

Waukesha Electric Systems currently manufactures power transformers from 5 to 200 MVA (with specialty design top-rated to 420 MVA), up to 345 kV. In May 2010, Waukesha Electric Systems announced and expansion to his Wisconsin facility in order to extend his ability to manufacture larger, higher voltage units.

Upon completion (estimated for fourth quarter 2011), Waukesha will have a dedicated 154,000 square feet of manufacturing space just for large power transformer production and testing and begin building 12,000 MVA units up to 500 kV.

It was early 2011 when Ingeteam Group, with Indar Electric, S.A. as manufacturer of rotating electrical machines and Ingeteam Power Technology, S.A. Industry Division - Steel Solutions as supplier of the remaining electrical & automation equipment have received the purchase order to equip the new Waukesha's transformer test bench.

Technical Features

The Ingeteam Power Technology's equipment will generate the internal power network completely isolated from the other power network need to feed the following transformer tests: load test, induced test, no-load test losses and transformation ratio.

The scope of supply of Ingeteam's consists of:
 Set #1 : Tandem of three machines turning to 1200 rpm composed of: one asynchronous motor of 700 kW to 480 Vac feed from a frequency converter, synchronous motor of 6,7 MW to 13,2 kV and one synchronous generator that generates the internal power network to feed three-phase 20 MVA and 12 MVA (single-phase) to 13,2 kV 60 Hz. The internal power network will feed the heating test, no-load test and the transformation ratio of three-phase and single-phase transformers.

Set #2: Tandem of two machines turning to 1800 rpm with approximately total weight of 25.000kg composed of: asynchronous motor of 700 kW to 480 Vac feed from a frequency converter and a synchronous generator which generates the internal power network to feed 3 MVA (three-phases) or 1,5 MVA (single-phase) to 13,2 kV 180 Hz. That internal power network will feed the induced voltage test (measurement of partial discharges) of three-phases and single-phase transformers.

Also includes the main low voltage switchgears, outgoing high voltage switchgears for the generators, frequency converters, oil cooling lubrication equipment of bearing, a common bedplate for both sets, coupling between machines, protections, generation control equipments, integrated alarm system, engineering, erection supervision and commissioning in Wisconsin (U.S) of the above two sets.

Single Line Diagram

