**Flandria Transformer Substation**

**Project Information**

- **Year:** 2013
- **Customer:** Cooperativa Eléctrica de Luján
- **Location:** Villa Flandria, Luján Partido, Argentina
- **Solution:** 33 / 13.2 kV Transformer Substation
- **Segment:** Electrical Utility (UTI) – Transmission & Distribution (T&D)

**Background**

Luján Partido, with a population of 100,000 habitants, is located in the province of Buenos Aires, 60 kms far away from the Argentinian capital.

The renovation and reconsideration of the transformer substation located in the city of Villa Flandria permits to meet the needs that have led to the strong growth of the region in recent years.

Doubling the power capacity, increasing the number of incomings and outgoings, and providing them with the most modern technologies of switching, protection and control ensure the uninterrupted supply of cities against any unexpected situation.

Flandria transformer substation supplies energy to the city with the same name, Villa Flandria, and the rest of cities which are part of Luján Partido, like Jauregui, Loreto, Cortinez, Olivera or the capital city Luján.

**Challenge**

The challenge of Cooperativa Eléctrica de Luján engineers was to meet growing energy demand that had been generated in recent years in its supply area.

With an old-fashioned installation of air insulated switchgear and obsolete power capacity according to past demand, the difficulties to supply current demands were notorious, so the progress towards a technology with greater guarantees was the best of solutions.

According to the requirements transmitted by engineers of Cooperativa Eléctrica de Luján, the solution had to fulfill the following needs:

- Installation insensitive to harsh environmental conditions.
- Low maintenance on the active parts.
- Full day warranty service assurance.
- Remote control monitoring and operation.

Also the requirement of obtaining an experienced supplier on the development of the all works related with the complete renovation of a substation was a must. On site works on the substation like:

- **Civil Works of the Transformers and Switchgear room.**
- **Earthing grid design and installation.**
- **Configuration of Protection and Remote Control units.**
- **DC and Auxiliary Service supply of the complete substation.**
- **Installation and commissioning of equipment connectors and terminals.**

**Cooperativa Eléctrica de Luján / Partner information**

Cooperative responsible of the generation and distribution of electrical energy that focuses its activity concerning the supply area of Luján Partido.

**Eduardo Selvino – Cooperativa Eléctrica de Luján**

“The use of Ormazabal switchgear increases the reliability and responsiveness against the various emergencies that may occur. Furthermore, the technology used is a reduction in the maintenance actions on field and repair time in situations that require it.”
**Ormazabal solution**

After the evaluation of different configurations, Ormazabal propose to the customer the complete retrofitting of the facility.

Previous technologies such as Air Insulated Switchgear would be replaced by the latest benefits technologies on the development of transformer substation switchgear.

Thanks to the use of Gas Insulated Switchgear (GIS) insensitive to harsh environmental conditions, extensible on number of incomings and outgoings, and its maneuverability, protection and remote control options, warranty service was assured.

Our experience and added value in the development of turnkey substations with over 1,300,000 switchgear distributing electricity in five continents and comprehensive management of the entire facility including:

- **Distribution Network Solutions (DNS)**
  - Secondary distribution gas insulated switchgear.
  - **CGM.3 System:**
    - Electrical Characteristics: 36 kV – 630 A – 20 kA 1 s
    - Scope of Supply: 8 Cubicles
  - **CGMCOMOS System:**
    - Electrical Characteristics: 24 kV – 630 A – 20 kA 1 s
    - Scope of Supply: 13 Cubicles

- **Engineering**
  - Protection & Control Engineering according to IEC 61850.

- **Retrofitting & Installation**
  - Civil Works (Transformer and Switchgear room) of the substation and Power Systems connections and terminals.

- **Commissioning & Field Testing**
  - Of the installation at substation location on December 2013.

**Conclusions**

Flandria Transformer Substation represents the capability of Cooperativa Eléctrica de Luján to face challenging projects and Ormazabal philosophy to interact with the customer to resolve their requirements.

Strengthening personal relationships and supporting them with the most reliable innovation solutions, Ormazabal helped in the development of entire retrofitting of Flandria Transformer Substation to the peace of mind of Luján Partido habitants.

**Key benefits**

- Turnkey transformer substation.
- Contracting of a unique project manager.
- Complete retrofitting with full insulation.
- Monitoring, protection and control of the entire facility.
- Duplication of power capacity.
- Improvement of number of incomings and outgoings extensible to the future.