



# SOLUTION NOTE

## LA PALMA AIRPORT UPGRADE Canary Islands Airport (Spain)

### LA PALMA AIRPORT UPGRADE PUBLIC INFRASTRUCTURE

The airports from the Canary Islands have seen more than 1 million passengers and over 1.000 tons of consumer goods last year and these numbers are expected to grow. AENA, Spain's publicly owned company in charge of managing the national airports flights and infrastructures will invest almost 3.000 million Euros until 2020 in the Canary Islands airports. This investment of almost 200 million Euro per year will be used to modernize and expand infrastructures at airport terminals and aircraft area.

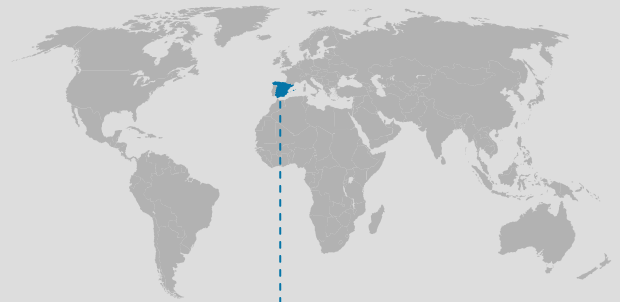
**DUE TO** » 2010

**CLIENT** » ENDESA, Unelco

**LOCATION** » Canary Islands, Spain

**SOLUTION** » Complete Distribution Network Solution

**SEGMENT** » End Users (E3U) - Public Infrastructures



**ORMAZABAL PFU:**  
PREFABRICATED CONCRETE  
TRANSFORMER SUBSTATION UP TO 36 KV



**ORMAZABAL CGMCOSMOS:**  
FIXED MOUNTED, SINGLE BUSBAR, GAS INSULATED SWITCHGEAR  
UP TO 24 KV

**Switchgear Type:**  
Circuit Breaker Panel (V)

**Electric Data:**  
24 kV – 630 A – 20 kA

**Scope of Supply:**  
5 Cubicles



**ORMAZABAL ekorRPS:**  
MULTIFUNCTIONAL PROTECTION UNIT

**Characteristics:**  
Multifunctional protection, control  
and measurement relay



**ORMAZABAL CPG.0:**  
FIXED MOUNTED, SINGLE BUSBAR,  
GAS INSULATED SWITCHGEAR UP TO 36 KV

**Switchgear Type:**  
Circuit Breaker Panel (V)

**Electric Data:**  
24 kV – 1600 A – 25 kA

**Scope of Supply:**  
9 Cubicles



**ORMAZABAL ekorRPS:**  
MULTIFUNCTIONAL PROTECTION UNIT

**Characteristics:**  
Multifunctional protection, control  
and measurement relay

### THE CHALLENGE AND THE SOLUTION

Before the modernization, the electrical infrastructure of the airport of La Palma contained one power station to receive the electrical energy from the local provider, two wind turbines, two Diesel back-up generators, two ring and two star networks. The electricity was delivered in 15 kV, stepped down to low voltage and stepped up again to 3 kV. The customers wanted to increase safety and reliability and also dispose the need to distribute in 3KV. A key requirement for all equipment was tolerance to high salt content, combined with a minimum need for maintenance. In addition, the integration of a third wind turbine was planned, which had to be integrated into the electrical infrastructure.

Ormazabal offered a complete solution to best fulfil the client's requirements. From the beginning of the project Ormazabal experts were involved and supported the design of the installation. The new wind turbine and the requirement for an additional supply ring led to the need of a complete redesign of the distribution network. After detailed analysis it was recommended to eliminate the 3 kV distribution network and add redundant cubicles to secure emergency power supply with the Diesel back-up generators. In addition, the **CPG.0** cubicles for a new power station where delivered, to receive the electrical energy from the provider. These were connected to the **CGMCOSMOS** distribution cubicles and the additional ring network, which were also supplied by Ormazabal. In addition, **ekorRPS** protection products and **PFU** transformer substation were delivered to complete the solution.

Thanks to Ormazabal Solution, the client obtained the following benefits:

- **Complete solution: Support from design to installation**
- **Low maintenance needs due to reliable operation under harsh environmental conditions**
- **"Plug and play" philosophy: Upgrades and reconfigurations of electrical schemes in minimum time**
- **Cost effective overall project**