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The COMETA project.

Energy for the Balearic Islands

Fig.1: Kathedrale La Seu/Palma de Mallorca

Mallorca – The Main Island of the Balearics. It stands for palms, beaches and summer holidays. It is a preferred destination to up to 10 million of holiday-makers every year and therefore by far the most popular tourist region of Spain.

The electric system of the Balearics has been exposed to a sustained annual demand increase and now requires additional security and higher service quality.

The balance between energy generation and demand on the island represents the quality of the system.

To link Majorca with the Spanish peninsula via HVDC submarine cable introduces significant benefits to the power system. Reduction of Energy not supplied (ENS) in the archipelagos system due to generator trips, better regulations of the frequency, reduction of generator costs and a decrease of CO_2 emissions, avoided or delayed new generation needs, are some of the benefits that identified and highlighted.

From three options previously suggested, the link between Morvedre (municipality of Sagunto - located near Valencia on the Spanish peninsula) and Santa Ponsa (municipality of Calvía - near Palma de Mallorca) was chosen.

A great challenge of this option is constituted by the 247 km long submarine cable (two HV-poles and one electrode cable) between the two converter stations, which is to be laid in the Mediterranean Sea at a maximum depth of 1,450 m.

Fig.2: The Cometa Link

In September 2007, the Spanish customer Red Eléctrica de España signed the contract with Siemens Power Transmission & Distribution for the implementation of the COMETA (Rómulo) Project.

This contract includes the design, delivery and construction of 2 converter stations, the connection of the Morvedre converter station to the 400 kV grid of the Spanish peninsula via Gas-insulated transmission lines (GIL) and a highly integrated switchgear (HIS). Moreover, the connection of the converter station of Santa Ponsa to the 220 kV grid of Mallorca via Gas-insulated switchgear (GIS) is also part of the Siemens scope of supply.

The construction and erection of the converter stations will be completed by December 2010. Due to the vicinity of the converter stations to the sea-side, Red Eléctrica de España decided to install all equipment indoor in order to avoid corrosion by the salty air.

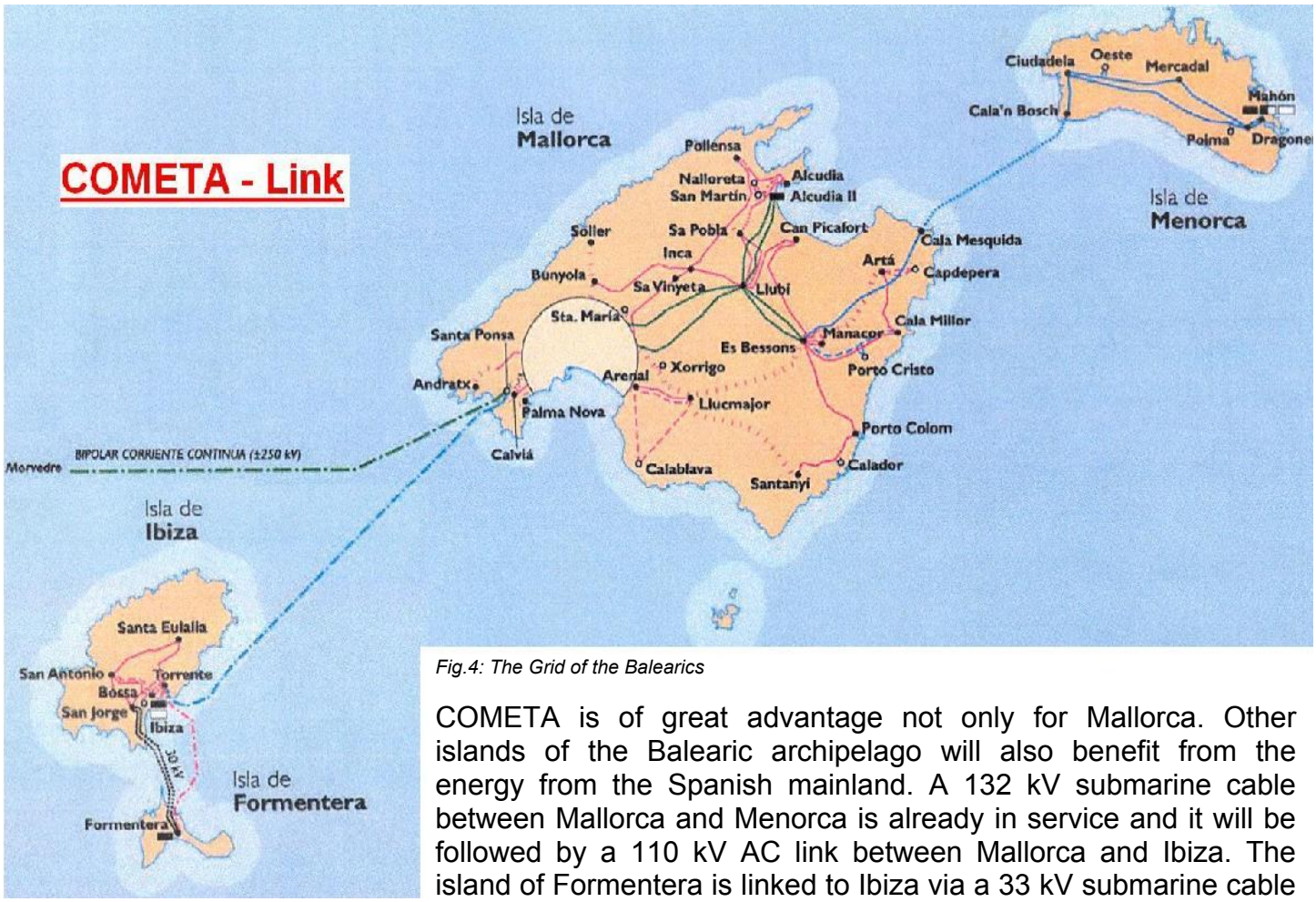

Fig.4: The Grid of the Balearics

COMETA is of great advantage not only for Mallorca. Other islands of the Balearic archipelago will also benefit from the energy from the Spanish mainland. A 132 kV submarine cable between Mallorca and Menorca is already in service and it will be followed by a 110 kV AC link between Mallorca and Ibiza. The island of Formentera is linked to Ibiza via a 33 kV submarine cable and will also profit from COMETA.