



GIBRALTAR GROUP OF PROFESSIONAL ENGINEERS PRESS RELEASE 20 APRIL 2009

As part of the GGPE events for 2009, a group of members carried out a technical visit to the “Nueva Generadora del Sur” Power Station located within the boundaries of the oil refinery close to Puente Mayorga (San Roque, Spain).

The power station consists of two Combined Cycle Gas Turbines (CCGT) with a total capacity of 800 MW and production of 226 t/h of steam for the Oil Refinery. The turbines are Siemens type V94-3A (gas) and HE (steam). The primary fuel consists of natural gas which is tapped from the gas pipeline linking Spain and Algeria, through the Straits. The 3,000 rpm turbo-alternators generate power at 22,000 volts. The plant came into operation during June 2004 and is equipped with state of the art technology. The plants uses waste heat from the gas turbine to produce steam which is then fed into a steam turbine, coupled through a clutch system, to the single shaft driving the turbo-alternator. Waste steam is then supplied to the Oil Refinery so as to minimise its own requirements for heat necessary in the refining process.

The electricity generated is stepped up via two transformers to a transmission voltage of 400,000 volts and fed into the Spanish grid through El Pinar del Rey high voltage substation.

The Group was received by the senior management. The head of production delivered a technical lecture on the functionality of the plant. At the end of the lecture the group was shown round the plant.



Some of the members inside the power station complex.



Aerial Photograph of the NGS Power Station showing the two CCGT plants.