

\$2.8b Qidfa desalination, power plant set to be largest in country

To help boost electricity in UAE national grid as well as GCC grid

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Shaikh Hamad Bin Mohammad Al Sharqi, Supreme Council Member and Ruler of Fujairah, Shaikh Mohammad Bin Hamad Bin Mohammad Al Sharqi, Fujairah Crown Prince, Shaikh Mansour Bin Zayed Al Nahyan, Deputy Prime Minister and Minister of Presidential Affairs and other dignitaries and partners at the inauguration of the F2 Qidfa plant, a Greenfield power generation and seawater desalination plant.

Dubai: The Fujairah F2 power and desalination plant will help economic and industrial development in Fujairah and the northern region, officials said following the inauguration of the \$2.8 billion (Dh10.2 billion) greenfield plant.

The inauguration conducted by His Highness Shaikh Hamad Bin Mohammad Al Sharqi, Supreme Council Member and Ruler of Fujairah, was also attended by Shaikh Mohammad Bin Hamad Bin Mohammad Al Sharqi, Fujairah Crown Prince, Shaikh Mansour Bin Zayed Al Nahyan, Deputy Prime Minister and Minister of Presidential Affairs and other dignitaries and partners.

With 2,000 megawatts of net power capacity and 130 million gallons a day of net water capacity, the F2 Qidfa plant will be the largest in the UAE, and a landmark achievement.

Latest addition

The Fujairah F2 power and desalination plant is the latest addition to the Abu Dhabi Water and Electricity Authority's (Adwea) power and water network.

The plant took three years to build and enjoyed an exceptional safety record. It has been operating successfully since last January.

Abdullah Saif Al Nuaimi, Adwea CEO, said: "By the last quarter of 2010 the F2 Qidfa plant with 2,000 megawatts capacity and 130 million gallons of water will cover the shortages of water and electricity across the UAE.

"Within the coming six months the shortfall in electricity in both Fujairah and Ras Al Khaimah would be met while the water shortage would take until 2012 to be eliminated."

The Japan Bank of International Cooperation (JBIC) provided 60 per cent of the capital finance for the F2 project.

Al Naimi said that the huge power plant would boost power in the UAE national power grid as well as the GCC power grid.

Desalination

With the expected 10 to 15 per cent growth in water and electricity demand, there would be a need for building one power and desalination plant in the UAE every two years, he said.

"The privatisation of water and electricity projects initiated by Adwea ten years ago has enhanced water and power sustainability in the UAE and will go on with the coming projects."

J. Steven Yarrington, executive managing director of Fapco, told Gulf News that the Fujairah Asia Power Company PJSC (Fapco) operates and maintains the Fujairah F2 plant.

Background

Fapco was formed in 2007 as a joint stock company and is co-owned by the National Energy Development Company (Taqa) and Adwea collectively holding 60 per cent equity interest, while Marubeni Corporation and International Power — GDF Suez each hold a 20 per cent interest.

He remarked that the plant covers 740,000 square metres.

TURBINES

Fujairah F2 Design

The power plant design has three gas turbines combined —cycle blocks which incorporate five gas turbines and three steam turbines, a 100 MIGD Multiple Effect Distillation (MED) desalination plant based on twelve 8.3 MIGD MED units, and a 30 MIGD reverse osmosis desalination section. This configuration offers the optimum in terms of both flexibility and efficiency. The MED takes steam from a combined-cycle plant to generate potable water and the Reverse Osmosis is driven by power. This combination allows for optimization of steam and power output.

Operations

The F2 plant's commercial operation is following the model of three defined groups. Group 1 and 3 is each based on a configuration of two Alstom GT26B gas turbines, with supplementary fired HRSGs and a condensing steam turbine with LP steam extraction to four Sidem 8.5 MIGD MED units.

Group 2 is based on a configuration of one Alstom GT26B gas turbine, with a supplementary fired and back pressure steam turbine producing LP steam for four Sidem 8.5 MIGD MED units. In addition, Group 2 includes a 30 MIGD SWRO facility.