

AL-KHOBAR II, 750-MW POWER PLANT



PROJECT NAME	AL-KHOBAR II, 750-MW POWER PLANT (Mechanical Works)
LOCATION	AZIZIAH (SOUTH OF AL-KHOBAR), SAUDI ARABIA
CLIENT	SALINE WATER CONVERSION CORPORATION (SWCC)
CONSTRUCTION PERIOD	31 MONTHS



The Al-Khobar II power plant, coupled to a 50-mgpd desalination plant, greatly increased the power generating capacity of Saudi Arabia's Eastern Province. This was vital in order to meet growing demand due to the unprecedented expansion of the Dhahran/Al-Khobar/Dammam conurbation.

The mechanical scope of the work included the total installation of five 150-MW radiant heat boilers with auxiliaries and the erection of 30,000 tons of pipes, steel structures and equipment. A total of 3 million manhours was expended, with a workforce peaking at 1,200 men. Special welding was required for carbon,





alloy and stainless steel, CUNIFE clad pipe, copper pipe and fibreglass. MAC also carried out all painting, insulation and lagging.

The work included:

- Erection of five 50-metre-high boiler steel structures, lifting the 80-ton boiler drums to a height of 48 metres using special winches, and assembling and erecting of the pressure parts, including furnace walls, Tig and Electric Arc welding to ASME Section IX standards using Lloyds certified welders, performance of 100% Gamma-Ray non-destructive testing and hydrotesting.
- Erection of boiler casing, air and flue gas ducting, burners and complete air testing.
- Erection of five turbine hall condensers, turbine house equipment and piping including high pressure super-heated steam alloy chrome-molybdenum piping.
- Erection of gates, travelling band screens, vertical pumps and auxiliaries, in addition to several kilometres of FRP fibreglass reinforced pipes (2,000 millimetres in diameter) from seawater intake to each of the five turbine condensers.
- Fire-fighting equipment.
- Pump house equipment and FRP piping network.
- Construction of all oil and gas piping from the jetty to the tank farm and back to the boilers.
- Chemical storage plant and water treatment equipment and piping.
- Plant and piping for service and instrument air compressors.





