

# AL-KHOBAR DESALINATION PLANT PHASE I



PROJECT NAME	AL-KHOBAR DESALINATION PLANT, PHASE I
LOCATION	AZIZIAH, (SOUTH OF AL KHOBAR), SAUDI ARABIA
CLIENT	AQUA-CHEM OF USA AS MAIN CONTRACTOR TO SWCC
CONSTRUCTION PERIOD	24 MONTHS



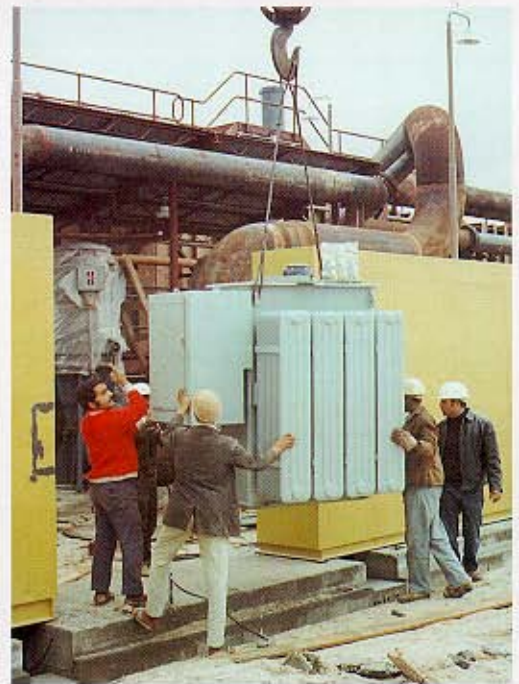
MAC Construction was awarded the contract to build the first desalination plant in Saudi Arabia's Eastern Province, where previously only salty, brackish water from artesian wells was available. Access to the site, located in Aziziah (about 15 kilometres south of Al-Khobar), was via an unasphalted track over which cranes, construction equipment and evaporator vessel modules (each weighing up to 65 tons) were transported. MAC also provided all life-support facilities, including electrical generation equipment, living quarters, offices and shops.





The work included:

- Three Long Tube Flash evaporator desalination plants, each producing 2.5 million US gallons per day, supplied by Aqua-Chem Inc. of Milwaukee USA.
- Three 100,000 lbs/hour Cleaver Brooks steam package boilers with complete boiler auxiliaries including high-pressure pipework, flues, ducts and stacks.
- 60-inch concrete-lined seawater intake piping; 10-metre-long vertical recirculating KSB pumps; low-pressure interconnecting piping; hundreds of tons of walkways and steel platforms; wooden decarbonator tower; interconnecting cabling and control wiring.
- Assembly of 75 evaporator sub-modules, each weighing up to 65 tons; welding of the 1-inch thick vessel walls; welding of the CuNi tube sheets; tubing and expanding of approximately 37,000 eighty-foot-long copper nickel tubes; welding of clad on CuNi on steel walled water boxes; mechanical



erection of associated equipment such as stainless steel jet ejector vacuum system, chemical dosing system, etc.

- Instrumentation work, including installation of pressure, temperature, level and flow sensors on vessels and piping; assembly and tubing of field pneumatic transmitters on field racks; laying of cable trays in concrete trenches; laying of multitube pneumatic instrument tubing, including splicing; installation of remote control room panels, connecting to field instruments, testing and calibration of all instruments.
- Electrical work, including laying of cables on trays in cable trenches, strapping and cable splicing; installation of motor control centres, cabling to motors, installation of electrical distribution boards and cable termination; installation of all field lighting and power points, including cabling and termination.
- Insulation; fabrication and installation of the aluminium cladding.
- Painting, testing, commissioning and start-up assistance.

