

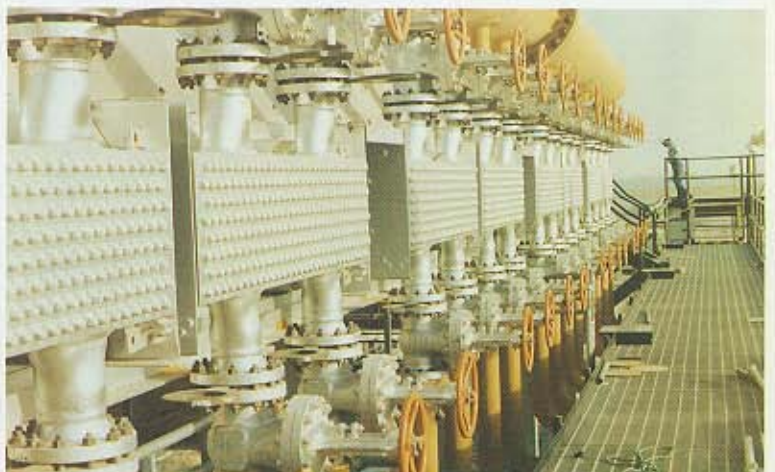
ONSHORE GAS-GATHERING FACILITIES



PROJECT NAME	ONSHORE GAS-GATHERING FACILITIES (Mechanical Works)
LOCATION	SAFANIYA, SAUDI ARABIA
CLIENT	ARAMCO
CONSTRUCTION PERIOD	19 MONTHS

This was a complex multi-disciplinary project, involving over 6 million manhours (for all mechanical, civil and electrical work) during a very short construction period of 19 months. Peak manpower for all disciplines both direct and indirect reached 2,300 men, all of whom were accommodated and catered for adjacent to the site, in MAC Construction's relocatable camp, with its own sewage treatment plant, medical facilities, entertainment centre, canteen, etc.

The facilities were designed to collect gas which was wastefully burning off into the atmosphere. On construction, the plant enabled the gas to be purified and then compressed in 16 large compressors, ranging from 17,000 to 21,000 hp. It was then piped to Jubail, some 150 kilometres to the south,



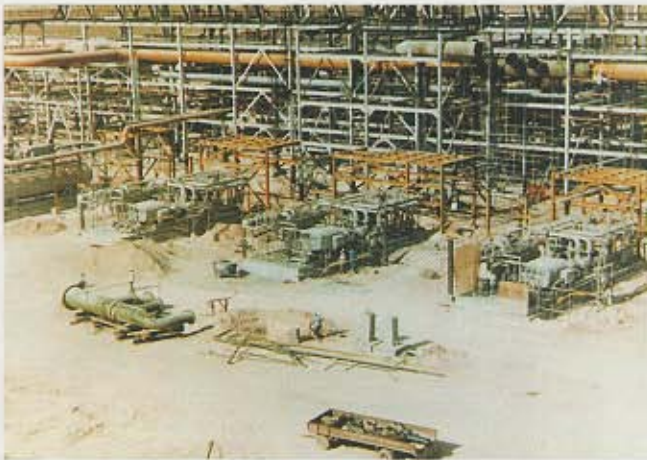


where it was put to commercial use, thus achieving substantial economic and ecological gains.

MAC Construction was also responsible for the installation and on-site operation of a project material management system using a Hewlett Packard 3000 computer system.

The mechanical/electrical work included:

- Erection of structural steel racks and platforms with a total weight of 3,500 tons.
- Fabrication and erection of 900 tons of steel supports and hangers for piping.

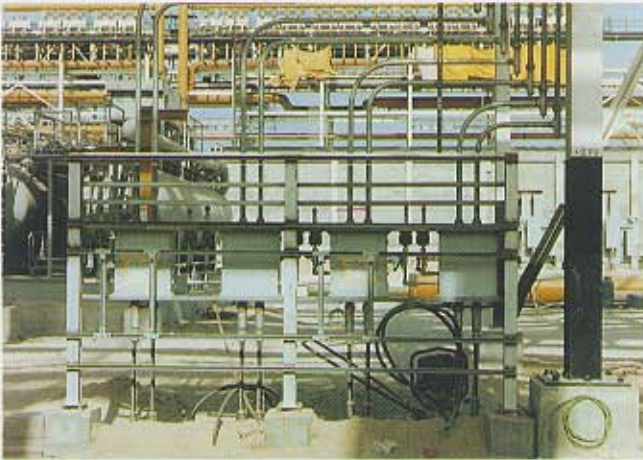
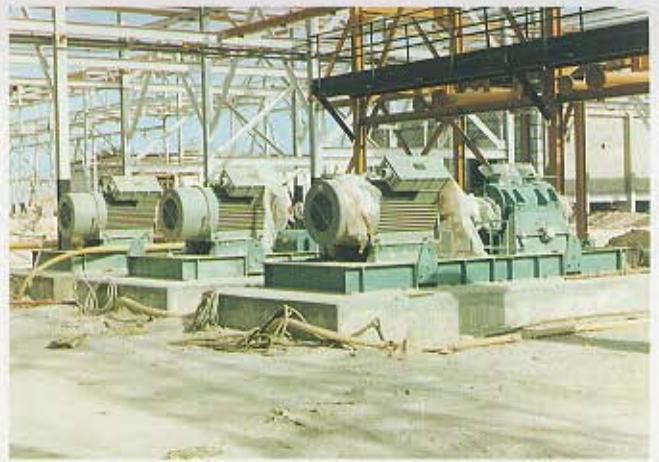




- Equipment erection including installation of 16 gas compressors ranging from 17,000 to 21,000 hp each, associated vessels and equipment, skids and pumps, all totalling 5,000 tons.
- Above ground piping work with sizes ranging in diameter from ½ inch to 72 inches and totalling 20,000 tons of carbon steel,

alloy steel and stainless steel; including some very high pressure pipework with wall thickness up to 2½ inches that required cold cutting, compound bevelling, pre-heating, tig and arc welding, stress-relieving and one hundred percent radiographic inspection all to ASME standards.





- Installation of electrical and instrumentation works consisting of over 50 miles of high-voltage cable, together with medium- and low-voltage control and communication cabling; as well as sub-station and switchgear equipment with a complete control room and over 1,200 instruments.
- Insulation of equipment and piping.
- Painting of all steelwork, equipment and piping.

