



GSA^e

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Offshore Oil Processing Plants **Refurbishment and Debottlenecking Project**

This project was to determine how to upgrade 3 obsolete installations in the Persian Gulf. GSA^e carried out the work in partnership with a local engineering group who complemented GSA^e's process engineering capabilities with C&I, Electrical and Mechanical support. Overall, the project included almost 70,000 man-hours of design work for the partnership.

The work scope for each facility involved the design and techno-economic evaluation of a number of possible conceptual design options for the upgrades for each facility and to then aid the client in selecting a preferred option for which GSA^e will complete the Front End Engineering Design and prepare procurement documentation to allow the client to move into a construction phase.

The main part of the development is the debottlenecking and renovation of up to 4 on-shore crude oil primary processing facilities at Kharg Island. Each facility processes crude from a particular field in the gulf. There are options to either upgrade the units in the existing facilities or replace them by building an entirely new unit capable of meeting a processing capacity of around 300,000 barrels a day.

The second development, also associated with Kharg Island, is to resolve corrosion problems in the subsea transfer line to the on-shore plant by removing water from the oil at the well production platforms before it is pumped to shore. This project goal is to reduce the water percentage to about 0.2 per cent by volume.

Work at the third facility, on Lavan Island, is safety related involving the installation of Fire and Gas Detection systems, an upgrade and extension of the fire fighting systems and the provision of a new control room with modern DCS control facilities.

Overall, the project vastly improved the efficiency of the facilities, reducing the environmental burden as much as practically possible.

Test Facilities or Capacity Crude Processing Facilities; GSAE has the capability and experience to develop suitable sites cost effectively and quickly