

Client Name	:	<b>Saudi Arabian Oil Company (Saudi Aramco)</b>
Project Title	:	<b>Increase Northern Area Pumping Capacity BI-3701 / JO-37011, 37012, 37013</b>
Project Description	:	<p>This project will provide facilities to enable the transfer capacity of crude to increase from Safaniya, Tanajib, Khursaniyah and Qatif to meet the long term MSC for both AM and AH grades of crude.</p> <p><u>Safaniya Pumpstation, JO-37011</u> Replacement of underground in-plant piping with aboveground piping from the AH/AM crude shipping pumps to the in-plant scraping facilities.</p> <p><u>Khursaniyah Pumpstation, JO-37012</u> Modifications to existing AH/AM crude pumps. Reconfiguration in the use of existing pumps and plant piping, and the addition of new pumps.</p> <p><u>Surge Relief Facilities, JO-37013</u> Modifications to existing surge relief facilities and installation of new surge relief facilities to protect the pipelines against closure of pipeline power operated valves.</p>
Total Project Design M/Hrs	:	164,058
Project Parameters	:	Preparation and participation in Project Proposal, Detail Engineering Design and Procurement Assistance, construction support and as-built recording for Increase Northern Area Pumping Capacity, BI-3701/JO-37011, 37012, 37013.

#### Description of Proposed Facilities

- Installation of new pumpstation piping.
- Installation of new MOV's, PCV's, & FCV's (severe service)
- Installation of minimum flow bypasses.
- Installation of crude transfer manifold.

- Replacement of pump impellers.
- Replacement of pump motors (4.16 kv to 32.2 kv).
- Replacement of pump lube oil packages.
- Rerouting 115 kv transmission lines.
- Installation of new substation building and yard complete with all associated equipment.
- Installation of 2 new 13,750 hp crude booster pumps.
- Installation of PLC based triple redundant ESD system.
- Installation of DCS & PLC based pump sequencing control system.
- Installation of 10 new surge relief skids at 5 location.
- Installation of surge tank automatic pump-out facility.
- Interface to TDC-3000 at Safaniya Facilities and Videospec at Abqaiq.