

Client Name	:	<b>Saudi Aramco</b>
Service Order No.	:	082/713-300/002
Project Title	:	BI-3142, Haradh Gas Gathering and Crude Pipelines, Phase II (Detailed Engineering)
Client Project Manager	:	E.M. Al-Kadi
Telephone No.	:	872-2552
Department	:	HDGP Projects Dept., Pipeline Projects Division
Zate Project Manager	:	H.L. Russell
Start Date	:	October 2000
Finish Date	:	May 2001
Total Project Design M/Hrs	:	28,963
Project Description	:	<ol style="list-style-type: none"><li>1) Design of Approx. 41 km of 24" and 36" crude oil pipeline and tie-in to existing UA crude pipeline networks; includes scraper traps, intermediate isolation valves, and surge relief skid.</li><li>2) Design of approx. 44 km of 20", 24" and 32" sour gas pipelines and integrate into the existing Uthmaniyah gas gathering networks. Includes design of new facilities in UGP, scraper receiver, slug catchers and metering facilities.</li></ol>

Duties and Responsibilities :

Preparation of all construction drawings, process, electrical, instrumentation, piping and civil/structural.

1. Hydraulic and process design including transient surge analysis.
2. Equipment specifications and data sheets.
3. Construction Specifications.
4. Purchasing assistance including MTO's, requisitions for development and purchase, evaluation/review of vendor's data and drawings.
5. Construction cost estimate.
6. Studies, including hydraulic, environmental impact, HAZOP and Value Engineering.
7. Piping Stress Analysis using CAESAR-II.

Client Name	:	<b>Saudi Aramco</b>
Service Order No.	:	082/713-300/002
Project Title	:	BI-8255, Haradh AL Crude Increment, Phase II, Water Supply and Injection Pipelines (Detailed Engineering)
Client Project Manager	:	E.M. Al-Kadi
Telephone No.	:	872-2552
Department	:	HDGP Projects Dept., Pipeline Projects Division
Zate Project Manager	:	H.L. Russell
Start Date	:	October 2000
Finish Date	:	May 2001
Total Project Design M/Hrs	:	7,600
Project Description	:	<ol style="list-style-type: none"><li>1) Design of approx. 62 km of 42" seawater transfer pipeline; including approx. 22 km of 20" and 30" high pressure water injection headers, and design of a surge relief skid.</li><li>2) Design of approx. 3 km of 12" sweet fuel gas supply pipeline to Haradh GOSP-2.</li></ol>

Duties and Responsibilities :

1. Preparation of all construction drawings, process, electrical, instrumentation, piping and civil/structural.
2. Hydraulic and process design including transient surge analysis.
3. Equipment specifications and data sheets.
4. Construction Specifications.
5. Purchasing assistance including MTO's, requisitions for development and purchase, evaluation/review of vendor's data and drawings.
6. Construction cost estimate.
7. Studies, including hydraulic, environmental impact, HAZOP and Value Engineering.
8. Piping Stress Analysis using CAESAR-II.

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Client Name	:	<b>Saudi Aramco</b>
Service Order No.	:	045/724-200/003
Project Title	:	BI-3166, Haradh Gas Plant Downstream Condensate Pipeline Project.
Project Description	:	Project Proposal
Client Project Manager	:	Ali A. Al-Sadeg
Telephone No.	:	874-7495
Department	:	HDGP Projects Dept. Pipeline Projects Division
Zate Project Manager	:	H.L. Russell
Start Date	:	November 1999
Finish Date	:	November 2000
Total Project Design M/Hrs	:	14,352
<u>Duties and Responsibilities</u>	:	

- Preparation of all preliminary engineering drawings and studies.
- Preparation of ER Estimate.
- Providing procurement assistance during the course of project proposal including preparation of the Purchase Order Requisitions for the procurement of equipment and materials identified as being “Long Lead” items.
- Preparation of Project Proposal Books.
- Preparation of LSTK Contract Bid Package.