

Client Name : **Saudi Arabian Oil Company (Saudi Aramco)**  
Project Title : **Sales Gas to Yanbu Through AY-1 Conversion**  
Total Project Design M/Hrs : 120,000

#### Project Description

- 1) Conversion of 48" AY-1 Pipeline segment from E/W PS-3 to YCOT to gas service in order to deliver up to 321 MMSCFD of sales gas to Yanbu NGL Plant Low Pressure Header (FG-10) and the existing users of Ethane from the Low Pressure Header.
- 2) Installation of batching facilities along the 56" AY-1L pipeline from PS-1 to YCOT in order to be able to batch AXL/ASL/AL Crude oil through AY-1L pipeline, and demothball AY-1 Pipeline segment between Abqaiq and PS-1 to provide AXL to PS-1 tankage. This will free up the AY-1 Pipeline from PS-3 to Yanbu for sales gas service, while maintaining the capability to supply YCOT with the necessary crude demand at Yanbu via the AY-1L Pipeline.

#### Duties and Responsibilities

- 1) Carry out the residual engineering to complete the 90% detailed design package received from Saudi Aramco for the 56" AY-1L Batching and assume liability for the engineering.
- 2) Carry out the detailed design and engineering for the Conversion of the 48" AY-1 pipeline from Crude to Gas which includes the following:
  - i) Preparation of all construction drawings, process, electrical, instrumentation, piping and civil/structural.
  - ii) Equipment specifications and data sheets.
  - iii) Studies, including hydraulic, environmental impact and HAZOP.
  - iv) Piping Stress Analysis using CAESAR-II.
- 3) Purchasing assistance including MTO's requisitions for development and purchase, evaluation/review of vendor's data and drawings.
- 4) Prepare the project record books, Operating and Maintenance Manuals, and as-built of all drawings.