Challenge

- As the onshore field production matures, the profile of the hydrocarbon is changing to become more sour in nature
- In future, the existing pipeline system will require to transport a multiphase product with high levels of H2S, CO2 and water
- Determine if a polymer liner material is suited to the service environment and could protect the pipeline system in future service
- Establish the costs and schedules for installing a polymer liner to the existing pipeline system
- Determine the impacts of vented and non-vented liners in the application
- Establish the capability to maximise the local content participation in the pipeline rehabilitation project
- Provide senior management with technical information to support a strategic plan for investment in the pipeline system

Solution

- Conduct a Desk Top Study initially to set out the potential scope and the Terms of Reference of the Feasibility Study
- Send a small team into the field location to inspect the various pipelines and compression stations
- Meet with the local contracting and polymer producing companies to describe the project intentions and to encourage their support
- Engage with major in country technology organisation in order to determine their participation in a sour service testing program aimed at identifying polymer liner performance
- Plan the placement of a test spool in production environment
- Review the options for delivering long term internal corrosion protection to the existing pipeline system with the client and prepare a detailed report for senior management.

Impact

- The senior board of the pipeline system owner organisation is fully informed. Decisions can now be made with detailed cost and schedule information for all options to provide internal corrosion including pipeline replacement, chemical dosing and Swagelining™. It is now possible to develop a strategy for long term protection and continuous operation of the pipeline system to suit all the stakeholders.