

Case study: Southeast Asia

Global producer partners with Baker Hughes to ensure smooth field start-up operations

A global oil company developing an oilfield in Malaysia sought a long-term chemical services partner to ensure a smooth start-up of field facilities consisting of a floating production storage and offloading unit (FPSO) and a dry tree unit (DTU). A mix of subsea and dry tree wells were planned to produce 36 API gravity oil. Facilities production capacities were being designed to process 120,000 BOPD, with associated water injection facilities for handling up to 200,000 BWPD.

Baker Hughes worked with the customer for a three-year period during many phases of FEED to provide flow assurance consultation, assist with FlowSuite™ chemical solutions and assured flowback, and provide general systems design review and input. The customer's chemical service requirements included products suited for subsea application to wells through umbilical capillary lines, along with expert logistical, technical, and operational support. But no matter the configuration, challenge, or

environment, the Versa-Drive proved itself a versatile technology. Baker Hughes worked in close partnership with the customer throughout the FEED process to identify and rectify potential problem areas and to ensure smooth start-up operations.

This collaboration included the establishment of a complete Chemical Management System, detailed system-wide facility surveys covering corrosion, bacteria, tanks, pumps, and umbilicals. Baker Hughes assisted in the commissioning of chemical injection skids and associated lines, managed supply chain logistics including the tote tank fleet, and made full use of warehouse and laboratory facilities in a nearby support base. Additionally, filtration was ensured to NAD 8 specification and proper storage of chemicals for injection through capillaries. Baker Hughes also provided support to FPSO operations in commissioning the water injection system and offered ongoing process upgrades, development assistance, and troubleshooting.

Challenges

- Finding a partner to ensure a smooth start-up of field facilities

Results

- Established a complete Chemical Management System that ensures organized and effective chemical handling and application
- Expert technical support
- Continuous process upgrades and optimization improved operational efficiency and effectiveness over time

Table 1. Logistics and Supply Security

Baker Hughes Service	Customer Benefits
Full use of warehouse and laboratory facilities in a nearby support base.	Security of supply and rapid response times.
Filtration to NAS 8 specification and storage of chemicals to be injected through capillaries.	Provided assurance that particulate specifications are maintained for all products.
Full management of supply chain logistics.	Availability assurance for all chemical products and offshore delivery tanks.
Management of tote tank fleet, including retrofits and customization.	Ensured safe delivery and effective supply with no product contamination.