



ADVANCED ENGINEERING FOR FLOW ASSURANCE

As production and distribution systems expand into more challenging areas with longer tiebacks, deep and ultra-deep water and more complex fluids, flow assurance has become a major design issue and a critical part of the overall subsea design to ensure an optimal development solution for both new and expanding fields.

MCS offers a world-class engineering and consultancy service that focuses on a unique, integrated flow assurance solution incorporating all aspects of subsea process design through the entire subsea system from reservoir to the separator and beyond, through the life cycle of the field.

We can provide technical support for feasibility studies, conceptual design, preliminary engineering, detailed design, hook-up and commissioning, operational troubleshooting and debottlenecking and asset expansion.

SERVICE

- Fluid characterisation
 - Phase behaviour, PVT tuning, Fluid properties, Emulsion and viscosity characteristics
- Steady state hydraulic and thermal analysis
 - Multiphase and single phase flow, Line sizing, pressure drops and deliverability
- Transient hydraulic and thermal analysis
- Insulation/Active heating requirements
- Hydrate prediction, control and remediation
 - Methanol rates and volumes, low dosage inhibitors
- Wax prediction and management
 - Deposition, Gelling, pour point depressants, restart pressures
- Operability issues
 - Shutdown, cooldown, start-up, depressurisation, Pigging, Slugging, slug catcher sizing
- Solids prediction and control
 - Sand, Asphaltenes, Scale
- Operating strategies and procedures

CAPABILITY

- MCS bring an integrated solution to a subsea project, combining the flow assurance and process design with the pipeline and riser design at the early stages.
- We analyse the entire subsea production system, from the reservoir to the separators, and beyond, to ensure that the system is optimised and produced fluids will continue to flow throughout the life of the field.
- By fully integrating flow assurance at the early stages of a project, we can design a more robust solution that addresses all of the necessary project issues.