

## Summary

### Years of Experience

15

### Industries

- Oil and Gas
- Upstream
- Offshore
- Subsea
- Drilling & Completion

### Types of Facilities

- Oil & Gas Wells
- Subsea Facilities
- Production Facilities
- Gas Lift
- Subsurface

### Areas of Expertise

- Production Engineering (Well Performance, nodal analysis)
- Flow Assurance
- Operational Support
- Operating Philosophies
- Concept / Pre-FEED / FEED
- Thermodynamics
- Hydrates
- Slugging
- Field Extension Projects
- Managing Production Operations
- Managing Subsea Operations

## Professional Summary

Deepti worked as a Production Engineer in Reliance Industries Limited (RIL) managing gas production and assisting subsea operations for one of Asia's biggest deep water discovery (KGD6-D1D3, India) from 2007-2013. Thereafter, she has been working with Wood as a Senior Flow Assurance Consultant providing technical support in integrated subsea operations particularly for steady state and transient multiphase flow modelling such as cold well start-ups, cooldown, depressurisation, etc.

## Qualifications

### Education

Bachelor of Technology (B.Tech) in Applied Petroleum Engineering (APE)

### Registrations / Certifications / Licenses

Society of Petroleum Engineers (SPE)

### Publications / Presentations

- Technical paper on managing subsea operations in KGD6 - D1D3 field using in-house tool in SPE OGIC 2012, India.
- Technical Paper on "Subsea Well Containment System Modelling and Analysis" at the Wood Group Kenny Internal Conference, 2014, Aberdeen.
- Technical Paper on "Optimisation of Completion Design & Flowback Operation to enhance production Efficiency" at the Xchange Forum, 2018, Aberdeen.
- Presented on Flow Assurance at SUT, 2021 in Aberdeen

### Software / Skills

- Well and Production Performance
  - WELLFLO
  - Production Simulator (PSS) – Integrated Production Modelling
- Integrated Production Modelling (IPM) – Gap, Prosper, MBAL
- Single and Multiphase Flow and Network simulators:
  - OLGA & PIPESIM
- Thermodynamic Fluid PVT simulators:
  - PVTsim & Multiflash

### Languages

- English

## Experience

---

Her professional experience includes:

- Dynamic multiphase flow analysis including steady state and transient assessments
- Managing subsea operations and recommend operating strategies
- Preparing standard operating procedures (SOP's) for subsea operations
- Hydrate inhibitor management and optimisation
- Short term production planning based on historic well surveillance data
- Gas well performance and production optimisation
- Decline curve analysis for field life for gas fields
- Water production analysis and management in gas wells
- Hands on experience in Wellflo, OLGA, PVTsim, Production Simulation System (PSS) and Integrated Production Modeling (IPM).

### **Lead Flow Assurance Engineer**

#### **Wood (2013-Present)**

##### **BP Raven Concept Stage (May 2022 – Present)**

- Evaluate different options for new well tie-backs for BP.

##### **ETAP depressurisation philosophy, BP (2021 – Oct 2021)**

- Developed a detailed depressurisation procedure for ETAP on behalf of BP.

##### **GOO Production Assurance Secondment, BP (2019 – April 2021)**

- Seconded into BP to lead all production assurance activities for different BP operations and assets including Alligin and ETAP. She was responsible for production well and system performance monitoring for assets and managed interfaces with other stakeholders including subsurface, facilities and etc.

##### **GPO Flow/Production Assurance Secondment, BP (2019)**

- Seconded into BP to lead all flow assurance project activities.

##### **EOR FEED, Chevron (2019)**

- Led the steady state hydraulic assessment for polymer solution delivery (subsea mixing).

##### **Sea Lion FEED, Premier Oil (2019)**

- As part of thermal assessment for SPS (subsea production system) perform steady state and transient analysis comparing different insulation materials.
- As part of thermal assessment for the water injection system perform steady state analysis for defining insulation requirements.

##### **Andrew Development, BP (2019)**

- Perform steady state and transient flow assurance analysis to evaluate the required well spool length for Andrew wells.
- Identify the inhibitor requirement for cold well start-up

##### **BP North Sea - Foinaven Expansion (Pre-FEED / FEED)**

Acted as a reviewer on the Flow Assurance assessment of the SW Foinaven heavy oil tie-back option to the Foinaven FPSO with the following key activities:

- Applied Wood QA/QC processes to validate Multiflash files and OLGA models.
- Assisted study work by modelling transient operations in-line with field experience, including field shutdown and start-up (low temperature and hydrates risks).
- Supported the development of the flow assurance strategy based on the simulation work of others.

### **Baobab Gas Export, CNR (2018)**

- Providing Flow Assurance support for performing and ICDA assessment.

### **Slugging Assessment, FRAMES/KOC Processing, (2018)**

- Analyse slugging potential in each of the 8 Gathering Centres (GC) and estimate the surge volume for a range of flowrates.
- Steady state analysis was undertaken for a large range of scenarios including watercut sensitivities and ambient temperature to come up with the worst surge volume.

### **Jansz Slugging Assessment, Gorgon, Chevron – Perth (2017)**

- Perform slugging assessment for Jansz production flowline which ties back to existing Gorgon facility

### **EOR FEED, Chevron (2016)**

- Perform hydraulic assessment of Neat Polymer, Polymer Solution and Water Injection Systems

### **Browse Chemical Injection & Delivery Requirements, Woodside (2017)**

- Perform chemical injection line sizing for different gas fields in Browse

### **Hydraulic Analysis for Topside facilities at Gathering Centre, KOC (2017)**

- Perform steady state flow assurance analysis to evaluate the required line sizes and to evaluate the slugging potential within the battery limits of the system.
- Highlight the constraints related to high erosion and/or slugging potential for the range of flowrates analysed.

### **BP Baku (AGT Region) – Subsea Flow Assurance Asset Registers (2016)**

- Perform steady state OLGA simulations for the Gas export network using composition tracking module to reflect historical data and update the OLGA models that could be used for performing further simulation work in-house .

### **Captain Well Flowback Assessment, Chevron (2015)**

- Modelling well clean-up operations for high API fluid
- Optimization of Gas lift Injection for efficient flowback

### **Evaluation of Surface Facilities, Eni (2015)**

- Perform steady state and transient flow assurance analysis for the facilities to check the adequacy of the Douglas and Lennox surface facilities which might be affected by reducing the operating pressure of the 16" pipeline.

### **Subsea Well Response Project, Petrobras (2015)**

- Providing flow assurance services and developing operating guideline and philosophies

### **Subsea Well Response Project, Shell (2014)**

- Providing flow assurance services and developing operating guideline and philosophies

### **Highlander Pipework Temperature Analysis, Wood Group PSN (2014)**

- Prepare operating strategy for Highlander gas pipeline which was suspended and depressurized due to integrity concerns.

### Hydraulic analysis for Coulomb Redevelopment, Nakika, Shell, GoM (2014)

- Perform hydraulic analysis for the production control system hydraulic circuits for NaKika Subsea area.
- Estimating response time of valves during shutdowns and start-ups
- Estimate the Reservoir sizing for the HPU fluid
- Analysing the stability of control and process valves to pressure transients caused by operation of other valves.

### Aviat Detail Design Study, Apache (2014)

- Perform Flow Induced Vibration (FIV) analysis for the main pipeline and its connections.

### Aviat FEED Study, Apache (2013)

- Perform Steady State and Transient multiphase flow analysis

### BNT Pre-FEED, Apache (2013)

- Perform thermos-hydraulic flow Analysis for Pre-FEED for a range of pipe sizes.

## Petroleum / Production Engineer

### Reliance Industries Ltd (E&P), India (2007-2013)

KGD6-D1D3, Reliance Industries Limited, KG Basin, India (2007-2013)

- Part of commissioning team for Subsea Operations.
- Managing well deliverability to ensure production requirements are met by assessing the well's performance, production data and proposing solutions to enhance productivity.
- Perform production planning and daily well surveillance.
- Develop and maintain integrated production system models using real time data.
- Developed Standard Operating Procedures (SOPs), ramp up and start up guidelines for gas wells (High and Low WGR).
- Perform Nodal analysis for gas wells.
- Analyse topside facility upsets and impact on subsea system, identify remedial action & control measures, recovery plans, "what-if" scenarios for planning operational strategy.
- Perform inhibitor management and optimisation for gas field.
- Perform well testing, well performance of gas wells, including drawdown analysis.
- Perform dynamic multiphase flow analysis for well flowlines/trunk lines and complete subsea field network including wells subsea structures. Work on various aspects of flow assurance analysis such as slugging, liquid loading, pipeline erosion, flowline/well management, networking study, hydrate formation for subsea pipeline.

## Training

- Petex Integrated Production Modelling (IPM) Course, Edinburgh, Scotland.
- OLGA training by Next Schlumberger, Aberdeen, Scotland.
- Subsurface Principals and Practices by Douglas Dickey (BP) for Reliance D1D3 field.
- Well & Field Performance course by Dr. Michael Golan (NTNU).
- In-house RIL-BP Workshop on Water & Sand Management for Reliance D1D3 field.

- Subsea Well Completion and tooling course by Aker Solutions and SLB for Reliance D1D3 and MA field.
- Subsea System Overview course by Aker Solutions for Reliance D1D3 and MA field.

## **Professional History**

---

- Wood, India (May 2022 – Present)
- Wood, Aberdeen, UK (June 2013 – Present)
- Reliance Industries Limited, India (June 2007 – May 2013)