

# Alen Alex Ninan

## Flow Assurance Engineer

Enthusiastic **Flow Assurance Engineer** eager to contribute to team success through hard work, attention to detail and excellent organizational skills. Clear understanding of various Flow Assurance risks and concerns. Motivated to learn, grow and excel in the Oil and Gas industry.

## Work History

2022-02 -  
Current

### Flow Assurance Team Lead

*ExxonMobil Services and Technology PVT LTD,  
Bengaluru*

- Use critical thinking to break down problems, evaluate solutions and make decisions.
- Demonstrate respect, friendliness and willingness to help wherever needed.
- Maintained energy and enthusiasm in fast-paced environment.
- Actively listened to customers' requests, confirming full understanding before addressing concerns.
- Develop and maintain courteous and effective working relationships.
- Act as Flow Assurance lead for Greenfield and Brownfield projects
- Understand and define scopes for various FA activities
- Plan and schedule execution of various scopes for team
- Perform QA and review of team deliverables
- Plan and aid development of team capabilities
- Mentoring and training of engineers
- Participate in HAZOP, risk assessments and pigging on paper workshops representing Flow Assurance
- Surveillance planning and execution
- Pigging planning and execution
- Shutdown planning and execution

## Contact

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### LinkedIn

www.linkedin.com/in/alen-alex-ninan

## Skills

Flow Assurance

●●●●●  
Very Good

Quality assurance

●●●●●  
Very Good

Asphaltene management

●●●●●  
Good

Wax management

●●●●●  
Very Good

Sand erosion and management

●●●●●  
Very Good

Mentoring and Training

●●●●●  
Very Good

- Initial plant start-up and restart
- Address complex FA concerns and help team members in emergencies

2017-01 -  
2022-02

## Flow Assurance Engineer

*ExxonMobil Services and Technology PVT LTD,  
Bengaluru*

- Flow Assurance lead for greenfield & brownfield projects
- Independent contributor for various projects
- Concept select, pre-FFED, FEED FA assessment
- Pipeline hydraulic review and optimization
- Developing custom platforms and procedures that can help producing assets monitor and optimize various FA processes.
- Liquid management
- Understand Asphaltene risk and deposition concern
- Define Hydrate management strategy and troubleshoot hydrate concerns
- Wax deposition risk assessment and mitigation planning
- Pressure surge analysis for flowlines with single phase liquid
- WAG changeover and hydrate management
- Water injection assessment and hydrate management when injecting to oil zone
- Gas injection hydraulics
- Shutdown, cooldown and depressurization assessment
- Naphthenate deposition risk agreement
- Scale deposition risk assessment and mitigation
- Liquid management and slugging management
- Pigging qualification, testing and surveillance
- Pig stuck mitigation
- Production optimization and planning
- Well testing and planning
- Field benchmarking and tuning
- Mentoring and training of new recruits and less experienced staff
- Provide support for various emergencies and lead emergency response for field upsets
- Restart and shutdown surveillance

Multiphase flow



Scale management



Team leadership and supervision



Pigging planning and execution



## Languages

English

Hindi

Malayalam

## Software

OLGA



PIPESIM



PIPENET



PIPEPHASE



Multiflash



PVTsim Nova

- Sand transport and erosion assessment
- Greenfield initial startup surveillance and emergency support
- Fluid characterization
- Developing operations philosophy
- Develop surveillance platforms and tools that help with FA surveillance and risk management
- Coordinate development of surveillance platform that help with deposition monitoring, wax management, injection chemical management and virtual metering so that we can help assets with low cost solution for FA monitoring and troubleshooting
- Developed tool that auto tunes pig velocity and time to help with liquid management in asset

●●●●●  
Very Good

Synergi Pipeline Simulator (SPS)

●●●●●  
Very Good

AFT Impulse

●●●●●  
Good

Python

●●●●●  
Good

VBA

●●●●●  
Very Good

Elisp

●●●●●  
Very Good

2014-07 -  
2017-06

## Flow Assurance Consultant

Wood., Chennai

### Paradip refinery - Praxair OTS

- Provided support in periodic maintenance and setup for OTS
- Added additional training scenarios and logics mirroring field operation to OTS
- Helped with training asset engineers on use of OTS

### Technip HOEC pipeline Flow Assurance Study

- Fluid Characterization using PVTsim Nova
- Preparation of OLGA model for the pipeline gathering system with Heaters
- Steady State Analysis using OLGA 7.3.3
- Estimate slugging potential of line
- Estimating the surge volume required during steady state operation of pipeline network
- Transient analysis of the pipeline network using the OLGA 7.3.3 software for the Pigging, Turndown, Ramp-up, Shutdown, Restart and Depressurization operation
- Estimation of surge volume required during transient operations such as pigging, Ramp up and Restarts
- Optimization of depressurization operation for preventing Temperatures below MMDT
- Estimation of hydrate formation potential in the pipeline system during steady state and transient operation

### **SIBA Field Development Project**

- Fluid Characterization using in-house software
- Preparation of OLGA models for simulation study
- Steady state analysis using OLGA version 7.3.3
- Estimation of slugging potential of line
- Transient analysis of the pipeline network using the OLGA 7.3.3 software for the Pigging, Turndown, Ramp-up, Shutdown, Restart and Depressurization operation
- Optimization of Pigging operation to restrict pig velocities during pigging operation
- Optimization of depressurization operation to prevent Temperatures below MMDT and peak flow rates above specified values
- Post processing of data of the 4 discrete models to estimate the total surge volumes and flow rates
- Estimation of hydrate formation potential during steady state and transient operation of pipeline gathering system
- Estimation of Inhibitor injection rate to prevent hydrate formation

### **MEHL - RasGas FAXP Project – MEG Distribution Network**

#### **Steady State Flow Assurance**

- Fluid Characterization using Multiflash software
- Preparation of PIPESIM base model
- Hydraulic study using the PIPESIM software to estimate the minimum pump discharge pressure required to maintain the desired MEG injection rates
- Hydraulic study to determine the minimum pump discharge pressures required to maintain desired injection of MEG during pipeline rupture scenarios detailed in case matrix

### **Dodsal KOC – North Kuwait Field Brackish Water**

#### **Pressure Surge Analysis**

- Preparation of PIPENET model for the brackish water network
- Pressure surge analysis of brackish water pipeline network using PIPENET software to estimate the maximum surge pressure during valve closure
- Optimizing the valve closure time to prevent surge pressures above maximum threshold
- Pressure surge analysis to estimate the maximum

pipeline pressures to during pump trip and restart operation

### **McDermott - Flow Assurance for 24in Pipeline**

- Fluid characterization using Multiflash software
- Preparation of Olga model
- Hydraulic study
- Hydrate mitigation measures using MEG injection and Insulation
- Simulation of Transient operations such as Pigging, Turndown, Ramp-up Shutdown (Planned and Unplanned) and Depressurization

2014-01 -  
2014-07

### **Process Engineer**

*Wood., Gurgaon*

#### **GSPL, Mandali Becharaji pipeline project:**

- 12" Gas Pipeline carrying from Mandali to receiving terminal at Becharaji (51Km long pipeline) with delivery to various customers along the pipeline
- Preparation of Process design basis
- Pipeline Hydraulic Study
- Preparation of PFDs and P&Ids
- Preparation of equipment list and line list
- Preparation of datasheets

#### **KPTL, Cairn Thumbli water pipeline:**

- Thumbli 30" Pipeline carrying raw water from NR1 well-pad to MPT terminal (23.85Km long pipeline)
- Preparation of Process design basis
- Pipeline Hydraulic Study
- Preparation of PFDs and P&Ids
- Preparation of equipment list and line list
- Preparation of datasheets
- Surge Analysis of pipeline

2012-01 -  
2014-01

### **Assistant Manager - Manufacturing**

*Haldia Petrochemicals Limited, Haldia*

- Panel operation of Naphtha Furnaces (8 Naphtha feed and 1 Recycle feed furnace)
- Handled emergencies such as furnace tube rupture, boiler feed water valve failure, Furnace induced fan shaft shear, charge gas compressor trip
- Coordinated plant maintenance activities, coordinate furnace and tower vessel entry and

hotjobs.

- Reviewed processes, identifying areas that required improvement.
- Interfaced with area teams to verify application of technical details.
- Met weekly with team members to discuss improvement and alleviate any issues.
- Created process simulations to test operational outcomes without causing service disruptions.
- Created plans and communicated deadlines to complete activities on time

## Education

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2012-01 -  
2012-03

**Post Graduate Diploma : Process Engineering**

*Suvidhya Institute of Technology - Mumbai, MH*  
Passed with Distinction

2008-01 -  
2012-01

**Bachelor of Technology: Chemical engineering**

*National Institute of Technology - Kozhikode, KL*  
GPA: 7.1