ABSTRACT

This study examines the performance of offshore oil and gas production at Foxtrot Flow Station, PT PHE ONWJ, using an integrated Key Performance Indicators (KPI) framework covering productivity, operations (well–plant–maintenance), cost and economics, and Health, Safety, Security, and Environment (HSSE). A qualitative approach was employed, combining production data analysis from 2022 to 2025 with cross-functional in-depth interviews.

The results show that the production system operates under system-constrained conditions driven by aging assets, gas lift imbalance, and declining maintenance effectiveness. Production performance averages approximately 88% of targets, with losses dominated by hidden losses, particularly tubing obstruction associated with inefficient gas lift injection. Operationally, the system exhibits pseudo-reliability, where high availability does not translate into effective production. Economically, declining output increases lifting cost per barrel, while HSSE performance remains strong with sustained zero incident achievement.

A reinforcing decline loop is identified, where reduced production limits gas availability, further degrading system performance. These findings highlight the need for integrated interventions, including gas lift optimization, asset integrity management, and predictive maintenance to enhance operational resilience in mature offshore assets.

Keywords: ***Asset Integrity Management, Gas Lift Optimization, Mature Oil and Gas Fields, Production Performance Evaluation.***