

Abstract

Brownfield is often associated with challenges to optimize production in cost effective manner due to declining well productivity and escalating cost. PCSB in its aspiration to reduce Idle Wells Inventory has extensively applied fit for purpose technologies to reactivate stranded oil and gas producers. This paper describes how such technology; Surface Jet Pump (SJP) provides solutions to reactivate oil producers in “J” field and gas producers in “A” field at two of PCSB’s unmanned platforms, Offshore Malaysia.

‘J’ field is a marginal field development with minimal facility onboard. Full production stream is evacuated to the nearest facility via 53 km pipeline. Four years into production phase, some producers start to produce at high gas oil ratios (GOR) and high Flowing Tubing Head Pressures (FTHP) which created backpressure at the production header. Since the platform has no separate processing facility to manage the pressure variation, the high pressure (HP) wells had to be closed and allow the more productive low pressure (LP) wells to flow. Due to the space and power limitations on the platform, the feasibility of using SJP was assessed using network modeling. Following the assessment, SJP was installed in Sept 2012 and is deemed successful where it currently contributes between 11-15% of “J” field’s total production and has reactivated 100% of the Idle Wells.

The ‘A’ field, located offshore Peninsular Malaysia has 138 oil producers and 65 gas producers. Sixty of the gas producers located on one platform where there are two production systems; the HP for the non-associated gas and LP that is being utilized as three-phase production system. After seven years of production, the pressures in several gas wells have declined to the level that they are not able to flow to the HP system and became idle. SJP has been identified as an interim solution to produce the idle wells while waiting for booster compressor installation. The SJP was installed utilizing high pressure gas from HP compressor as the motive gas which has successfully reactivated 8 idle gas wells and boosted production on 4 other low rate gas wells with total production gain of 15 MMSCFD.