

## Kelayakan teknis dan ekonomis pemanfaatan gas venting pada sumur minyak di Anjungan Y lepas pantai = Technical and economic feasibility utilization of vented gas in oil wells at Y platform offshore

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### Abstrak

Electrical submersible pump (ESP) yang digunakan mengangkat minyak dari formasi, tidak bisa bekerja dengan baik karena sering mengalami gas lock sebagai akibat banyaknya gas associated yang terproduksi didalam well bore. Untuk mengatasinya, Gas associated ini dialirkan lewat casing dan di-venting ke atmosfer. Venting system ini berpontesi menimbulkan polusi udara. Karenan itu, 5 MMSCFD associated gas yang terproduksi di Anjungan Y ini, perlu dimanfaatkan secara close system dengan mengalirkannya ke Anjungan Process melalui scrubber 55" OD x 8'0" S/S, gas pipeline 8" sepanjang 5700 ft serta dikompresi dengan kompresor sampai tekanan discharge 400 psig sehingga dapat dimanfaatkan sebagai umpan gas plant atau fuel gas turbine. Nilai keekonomisan proyek ini sangat layak dengan NPV positif 141,5 Juta US\$, nilai IRR positif 408%, Payback time 3 bulan dan Revenue sebesar 11,1 Juta US\$/tahun.

.....The electrical submersible pump that used to lift oil from the formation, can not work properly because it often experiences gas lock as a result of the amount of associated gas produced in the well bore. To overcome this, Associated gas has to be flowed through the casing and vented to the atmosphere. This venting system has the potential to cause air pollution. Therefore, 5 MMSCFD of associated gas produced at Platform Y, needs to be utilized in a close system by flowing it to the Process Platform through a scrubber 55 "OD x 8'0" S/S, 8" gas pipeline 5700 ft length and compressed by the compressor until 400 psig discharge pressure, so that it can be used as a feed gas plant or fuel gas turbine. The economic value of this project is very feasible since positive NPV 141.5 Million US \$, positive IRR value of 408%, Payback time of 3 months and Revenue of 11.1 Million US \$ / year.