Perancangan dan estimasi biaya sulfur recovery unit dengan metode claus termodifikasi = Design and cost estimation of sulfur recovery unit with modified claus process

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Abstrak

Gas alam yang memiliki kandungan H2S tinggi dapat menyebabkan masalah lingkungan karena gas H2S merupakan gas berbahaya. Oleh karena itu, penghilangan gas H2S sangat dibutuhkan. Oleh karena itu, dibuatlah rancangan beserta estimasi biaya dari Sulfur Recovery Unit. Rancangan SRU disimulasikan menggunakan software PROMAX serta estimasi biaya mencakup Capital Expenditure dan Operating Expenditure. Produksi sulfur dengan membakar H2S didalam tungku dan juga secara katalitik. Sulfur kemudian dikondensasi untuk mendapatkan sulfur cair. SRU ini memproduksi sulfur sebesar 54,55 ton/hari dan listrik netto sebesar 320 kW dengan nilai Capital Expenditure sebesar USD 11,92 juta serta Operating Expenditure sebesar USD 2,05 juta.

.....Natural gas which has large H2S amount can cause many environmental issue because H2S is a harmful toxic gas. Therefore, it is required to reduce H2S amount and it is important to design the Sulfur Recovery Unit and calculate its cost estimation. The SRU design simulated with PROMAX software and the cost estimations are included Capital Expenditure and Operating Expenditure. Sulfur produced by burning H2S in furnace and by catalytic process. Furthermore, sulfur condensed to produce liquid sulfur. This SRU produce sulfur and sellable electricity about 54.55 ton/day and 320 kW respectively. The estimation of Capital Expenditure and Operating Expenditure were about USD 11.92 millions and USD 2.05 millions.