Peningkatan kinerja teg dehydration unit pada lapangan "s" menggunakan simulasi proses = Performance improvement teg dehydration unit on the field "s" using process simulation

Nurhayati, author

Abstrak

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Gas alam mentah ada di reservoir pada suhu dan tekanan tertentu. Dalam rangka untuk memenuhi spesifikasi kontrak penjualan gas (sales gas), komposisi gas alam menjadi faktor yang mempengaruhi kualitas gas alam. Kadar air dalam gas hasil produksi harus memenuhi spesifikasi pada kontrak yaitu tidak boleh melebihi 10 lb/MMSCF. Gas alam yang ada di Lapangan S masih mengandung banyak kadar air yaitu 13-36 lb/MMSCF; bahkan ada yang sampai 220 lb/MMSCF. Oleh karena itu, perlu dilakukan penurunan kadar air.
Pada penelitian ini dilakukan simulasi dehidrasi gas menggunakan Tri Ethylene Glycol (TEG) untuk memperoleh kadar air yang sesuai dengan spesifikasi penjualan gas. Parameter yang dipakai yaitu dengan memvariasi TEG feed, variasi fraksi mol feed gas dan variasi laju alir (flow rate). Kondisi operasi yang sesuai yang menghasilkan kadar air yaitu 7,5 lb/MMSCF dengan laju reaksi pada feed gas 100 MMSCFD, temperatur feed gas 125˚F dan tekanan 200 Psia yang berarti terpenuhinya spesifikasi kontrak penjualan gas sehingga selain meningkatkan nilai jual gas, produsen terhindar dari kerugian. TEG yang digunakan pada simulasi proses dehidrasi tersebut 71,26 Liter/hari.
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Raw natural gas in the reservoir at a certain temperature and pressure. In order to meet the specifications of the gas sales contracts (sales gas), the composition of natural gas into the factors that affect the quality of natural gas. The water content in the gas production must meet the specifications of the contract which may not exceed 10 lb/ MMSCF. Natural gas in field ?S? have to consist water content of 13-36 lb/ MMSCF and until to 220 lb / MMSCF. Because of that to decrease the water content.
The focus of this study is to simulated gas dehydration using Tri Ethylene Glycol (TEG) to obtain the water content in accordance with the specifications of gas sales. The parameters used are by varying TEG feed, feed mole fraction variation and variation of gas flow rate. In order to treat feed gas 100 MMSCFD until containing water until 7,5 lb/MMSCFD, temperature and pressure for feed gas must be maintained at 125 degF and 200 Psia and TEG to be injected into the system is 71.26 liters/day.; Raw natural gas in the reservoir at a certain temperature and pressure. In order to meet the specifications of the gas sales contracts (sales gas), the

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