Perbandingan investasi flowline dan fasilitas pemisahan gas asam berdasarkan skenario wellhead cluster dalam pengembangan lapangan gas baru = nInvestment comparison for flowline and acid gas removal facility based on wellhead cluster scenarios in developing new gas field

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Abstrak

ABSTRAK
Studi ini merupakan kajian mengenai pengaruh skenario Wellhead Cluster, Flowline dan fasilitas pemisahan gas asam atau Acid Gas Removal Unit (AGRU), terhadap investasi yang diperlukan dalam pengembangan suatu lapangan gas baru. Terdapat dua skenario Wellhead Cluster, dimana dalam Skenario-1 diasumsikan gas dari setiap Wellhead Cluster akan dialirkan langsung oleh Flowline menuju Separator dan fasilitas AGRU yang terdapat di CPP (Central Processing Plant), sedangkan dalam Skenario-2 diasumsikan Separator dan fasilitas AGRU terletak di salah satu Wellhead Cluster. Sweet gas, Produced Water dan Condensate hasil proses dialirkan dengan pipeline menuju CPP. Biaya investasi untuk masingmasing skenario akan dibandingkan dengan menggunakan variasi bebas : tekanan parsial H2S, laju alir dan jarak antara Wellhead Cluster dengan CPP.

Hasil penelitian menyarankan bahwa Skenario-2 lebih baik karena membutuhkantotal biaya investasi yang lebih kecil dibanding Skenario-1, kecuali untuk kondisi dimana laju alir maksimum 10 MMSCFD dan jarak antara Wellhead Cluster dengan CPP hingga 1 km, dimana Skenario-1 lebih baik dibandingkan dengan Skenario-2.
<hr><i>ABSTRACT
This study is about the influence of Wellhead Cluster scenario, Flowline and Acid Gas Removal Unit (AGRU) toward investment needed in developing new gas field. There are two scenarios, where in Scenario-1 it is assumed that gas from each Wellhead Cluster will go directly by Flowline to Separator and AGRU facility which is located in CPP (Central Processing Plant). Meanwhile in Scenario-2, it is assumed that Separator and AGRU facility are located in one of the Wellhead Clusters. Sweet gas, Produced Water and Condensate output from the process are delivered to CPP by pipeline. Investment cost for each scenario will be checked using free variation : H2S partial pressure, flow rate and distance between Wellhead Cluster and CPP.

The study which results that Scenario-2 is better then Scenario-1, because it requires less investment cost compared to Scenario-1, except for condition where maximum flow rate is 10 MMSCFD and distance between Wellhead Cluster to CPP is up to 1 km, then Scenario-1 is better than Scenario-2.;This study is about the influence of Wellhead Cluster scenario, Flowline and Acid Gas Removal Unit (AGRU) toward investment needed in developing new gas field. There are two scenarios, where in Scenario-1 it is assumed that gas from each Wellhead Cluster will go directly by Flowline to Separator and AGRU facility which is located in CPP (Central Processing Plant). Meanwhile in Scenario-2, it is assumed that Separator and AGRU facility are located in one of the Wellhead Clusters. Sweet gas, Produced Water and Condensate output from

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