

Analisis tekno ekonomi kinerja perpindahan panas pada unit main cryogenic heat exchanger terpasang akibat penggantian etana dengan etilen sebagai multi komponen refrijeran = Techno economy analysis of heat transfer performance in existing main cryogenic heat exchanger unit due to replacement of ethane with ethylene as a multi component refrigerant

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Abstrak

ABSTRACT

Tesis ini membahas pengaruh gas umpan yang mempunyai komposisi lebih ringan pada kilang LNG PT 'X' khususnya terhadap penurunan kinerja perpindahan panas unit penukar panas kriogenik utama terpasang, akibat penggantian etana oleh etilen sebagai multi komponen refrijeran. Penelitian dilakukan dengan metode simulasi proses LNG dengan menggunakan data-data yang telah ada serta evaluasi kelayakan ekonomi berdasarkan estimasi biaya operasi dan potensi revenue yang dihasilkan untuk membandingkan opsi-opsi optimisasi yang dapat dilakukan pada kilang LNG terpasang.

ABSTRACT

This thesis discusses the impact on an existing LNG plant in terms of heat transfer performance's decrement on main cryogenic heat exchanger due to delivery of leaner feed gas on the next coming years. The paper also evaluate and optimize the expected ideal operating condition for replacement of ethane with ethylene as a Multi Component Refrigerant so that it does not reduce the heat transfer performance of existing Main Cryogenic Heat Exchanger at LNG liquefaction plant. The method of this research is carried out using process simulation software with utilisation of existing data and new feed gas composition data and overall economic evaluation based on estimated operational cost and revenue in order to compare among all potential optimization options