

### Simulation and Optimization of the C3MR Process

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Because of limited fuel reserves, increasing prices of oil and growing concerns about the environment, natural gases (NG) are receiving attention as low-carbon, eco-friendly fuels. Natural gases have very large gas-to-liquid ratio, so the liquefaction process is essential to use NG as fuel. There are several kinds of natural gas liquefaction process. Among the liquefaction processes, propane pre-cooled mixed refrigerant (C3MR) process is the most widely used natural gas liquefaction process to date. In this study, a steady-state model of the C3MR process was developed using ASPEN HYSYS™, and optimization was performed to minimize the operating cost of the process.

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