

Liquefaction processes energy enhancement possibilities for offshore LNG production

무하마드 자훈, 이문용^{1,†}, Muhammad Abdul Qyum¹,

카딜 킨자¹

yeungnam university; ¹영남대학교

(mynlee@ynu.ac.kr[†])

The N₂ expander and single mixed refrigerant (SMR) based processes are the most favorable for offshore LNG production, due to low environmental footprints and ease in operability but on the expense of high energy requirement. Consequently, optimization of these processes are performed to find out feasible energy-enhancement opportunities for offshore LNG production to make them more competitive and economical. This study examines algorithm-specific parameter-less algorithm known as “Jaya algorithm” for energy efficient LNG production at offshore sites. Main feature of the self-adaptive multi-population Jaya optimization methodology is that it can be easily customized and generalized for any non-linear and complex liquefaction processes. This research was supported by the Basic Science Research Program Foundation of Korea (NRF) funded by the Ministry of Education (2018R1A2B6001566), the Priority Research Centers Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2014R1A6A1031189), and the Engineering Development Research Center (EDRC) funded by the Ministry of Trade, Industry & Energy (MOTIE) (No. N0000990).