

The effects of mixed refrigerants composition
in LNG Refrigerated generation

조은비, 황인주¹, 강춘형*
전남대학교; ¹한국건설기술연구원
(chkang@jnu.ac.kr*)

KOGAS supplies Natural gas to customers after vaporization of imported LNG(liquefied natural gas). The demand of natural gas has been increasing significantly in the past few years, due to the replacement of oil with more economical and the clean burning natural gas generates cool thermal energy. The cool thermal energy is wasted due to the use of seawater and returning it back to ocean during the LNG regasification. The LNG refrigerated generation applies principle of heat transfer utilizing LNG as heat sink in exchange for heat source. There are various methods of refrigerated generation and in this paper the specified method is mixed refrigerants Rankine cycle that behaves phase change between liquid and vapor. The optimization researches have performed to secure economic feasibility of refrigerated generation. In this study, the refrigerated generation was analyzed into effects of varied composition of mixed refrigerants. Based on the obtained results, it is investigated for Hot/Cold composite curve in a heat exchanger and efficiency of LNG refrigerated generation. This paper was supported by LNG Plant R&D Center from the Ministry of Land and Transport and Maritime Affairs.