

Technology Review of Natural Gas Liquefaction Processes

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Abstract: Due to the increasing demand for natural gas in the world today, transportation of natural gas from different parts of the world has become a necessity. Liquefying of the natural gas provides a safer and cheaper alternative for its transportation and increases its storage capabilities. However, it has been accounting for the highest operating cost if compared to the other chain of the industry. Hence, liquefaction process has been a key area that constantly in need for development to save cost and increase LNG plant capacity through production. This study reviews for the current development of natural gas Liquefaction (LNG) technologies. The cost items equipments that affect the overall operating cost of the plant and equipments efficiency will be discussed. Studies had been done on several parameters that influence the process efficiency and lead to wide difference in the production of LNG in a plant. These include the tube side design pressure, end flash quantity, temperature approach on main condenser, compressor efficiency, LPG recovery and also liquefaction technologies. Nevertheless, further studies and in depth understanding on the fundamentals of liquefaction process is still required in order to develop innovative methods to further increase the capacity, efficiency and consequently the production of LNG in a LNG plant.

Key words: Natural gas, liquefaction, LNG, transportation
