

Comparative evaluation of integrated NGL recovery plant for offshore process

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In the LNG industry numerous methods are available for NG liquefaction and natural gas liquids (NLG) recovery. However, due to the rapid changes in the global NG market, the emphasis in LNG industry is now placed on the integration of NGL and LNG technologies. In this paper the concept of integration is applied to a base NLG process which is integrated with the representative single mixed refrigerant (SMR) processes of NG liquefaction. From this cases obtained, calculation of the heat and compression duty requirement is performed after optimization. The heat and compression energy and capital cost benefits along with the specific power consumption are reported. The specific power consumption reduces with the complexity of liquefaction cycle at the expense of capital cost. The optimized integrated plant saves manifold of energy than the independent optimized plant, because of the synergy effect and thus helps in reduction of plant specific power at the same time having less impact on environment. This research was supported by a grant from the Gas Plant R&D Center funded by the Ministry of Land, Transportation and Maritime Affairs (MLTM) of the Korean government.