

عنوان مقاله:

Novel Cold Flow Hydrate Technology and Comparison of Cooling Processes: Review

محل انتشار:

اولین همایش ملی هیدرات گازی ایران (سال: 1390)

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خلاصه مقاله:

Hydrate technology is considered as one of the transportation systems with high gas capacity. Whereas, the amount of methane in hydrates is about 170 times more than the conditions for transfer of natural gas in a certain volume. Cold flow technology is known as a novel developing method that concern cost-effective flow of oil, gas and water mixtures in deepwater production pipelines without the constant use of additives, pipeline insulation, and pipeline and mixture heating to prevent freezing hydrate formation and deposition. In improved cold flow technology, some particular additives may be used to increase the volume of the produced hydrate. Enhancement of natural gas transport capacity due to low volume of gas hydrate declines in energy consumption for natural gas transportation and reduce the need to inhibitors which can reduce dramatically transport expenses. The aim of this manuscript is to introduce one of the newest contrivances methods of the flow hydrate technology. In addition, other aim of the manuscript is to compare two famous development concepts in the flow hydrate technology by review of presented works in literature about general and simple heat and mass balance calculations. Two different presented methods in literature for hydrate production will be compared to each other. The calculation on the cooling process shows that several parameters play an important role in the cold flow technology such as overall heat transfer coefficient (OHTC), (gas-oil-ratio (GOR) and water-cut (WC).

کلمات کلیدی:

Natural Gas, Cold flow, hydrate technology, cooling process, transportation system, slurry hydrate

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