

Title (en)  
LIQUEFACTION OF NATURAL GAS

Title (de)  
VERFLÜSSIGUNG VON ERDGAS

Title (fr)  
LIQUÉFACTION DE GAZ NATUREL

Publication  
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Application  
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Abstract (en)  
[origin: WO2014078092A1] Systems and a method for the formation of a liquefied natural gas (LNG) are disclosed herein. The system includes a first fluorocarbon refrigeration system configured to chill a natural gas using a first fluorocarbon refrigerant and a second fluorocarbon refrigeration system configured to further chill the natural gas using a second fluorocarbon refrigerant. The system also includes a nitrogen refrigeration system configured to cool the natural gas using a nitrogen refrigerant to produce LNG and a nitrogen rejection unit configured to remove nitrogen from the LNG. As an alternative embodiment, the nitrogen refrigeration system can be replaced by a methane autorefrigeration system.

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Citation (search report)  
• [Y] EP 1092931 A1 20010418 - AIR PROD & CHEM [US]  
• [IY] KR 20110107636 A 20111004 - KOREA GAS CORP [KR]  
• [Y] EP 2251625 A2 20101117 - AIR PROD & CHEM [US]  
• [Y] US 6357257 B1 20020319 - GOBLE JR VANCE [US], et al  
• [Y] US 6253574 B1 20010703 - STOCKMANN RUDOLF [DE], et al  
• [IY] MARTIN P-Y ET AL: "NATURAL GAS LIQUEFACTION PROCESSES COMPARISON//COMPARAISON ENTRE PROCEDES DE LIQUEFACTION DE GAZ NATURAL", INTERNATIONAL CONFERENCE AND EXHIBITION ON LIQUEFIED NATURAL GAS, XX, XX, 21 March 2004 (2004-03-21), pages 1 - 10, XP001212639  
• See references of WO 2014078092A1

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