

Title (en)
METHOD FOR LIQUEFYING A STREAM RICH IN HYDROCARBONS

Title (de)
VERFAHREN ZUM VERFLÜSSIGEN EINES KOHLENWASSERSTOFF-REICHEN STROMES

Title (fr)
PROCEDE DE LIQUEFACTION D'UN COURANT RICHE EN HYDROCARBURES

Publication
EP 0975923 B1 20031119 (DE)

Application
EP 98924120 A 19980415

Priority

- DE 19716415 A 19970418
- EP 9802198 W 19980415

Abstract (en)
[origin: DE19716415C1] The invention relates to a method for liquefying a stream rich in hydrocarbons, especially a stream of natural gas, by the indirect exchange of heat with the refrigerants in a closed-circuit cascade of mixed refrigerants. According to the invention, said closed-circuit cascade of mixed refrigerants consists of at least 3 circuits of mixed refrigerants, with each circuit comprising different refrigerants. The first of the three mixed refrigerant circuits is used for pre-cooling (E1), the second for liquefying (E2), and the third for super-cooling (E3) the hydrocarbon-rich stream (1) to be liquefied. The method provided for in the invention reduces specific energy consumption and investment costs since the three circuits of mixed refrigerants are or can be optimally adjusted to the enthalpy temperature curves of the hydrocarbon-rich stream to be liquefied and the refrigerant mixtures.

IPC 1-7
F25J 1/02

IPC 8 full level
F25J 1/02 (2006.01); **F25J 3/02** (2006.01)

CPC (source: EP US)
F25J 1/0022 (2013.01 - EP US); **F25J 1/004** (2013.01 - EP US); **F25J 1/0052** (2013.01 - EP US); **F25J 1/0055** (2013.01 - EP US); **F25J 1/0217** (2013.01 - EP US); **F25J 1/0238** (2013.01 - EP US); **F25J 1/0248** (2013.01 - EP US); **F25J 1/0262** (2013.01 - EP US); **F25J 1/0264** (2013.01 - EP US); **F25J 1/0283** (2013.01 - EP US); **F25J 1/029** (2013.01 - EP US); **F25J 1/0291** (2013.01 - EP US); **F25J 1/0292** (2013.01 - EP US); **F25J 1/0294** (2013.01 - EP US); **F25J 3/0209** (2013.01 - EP US); **F25J 3/0233** (2013.01 - EP US); **F25J 3/0257** (2013.01 - EP US); **F25J 2200/02** (2013.01 - EP US); **F25J 2200/70** (2013.01 - EP US); **F25J 2210/06** (2013.01 - EP US); **F25J 2215/04** (2013.01 - EP US); **F25J 2220/64** (2013.01 - EP US); **F25J 2290/32** (2013.01 - EP US); **F25J 2290/62** (2013.01 - EP US); **Y10S 62/913** (2013.01 - EP US)

Cited by
CN109631492A; US10480851B2; DE102011014984A1; US11408673B2; US11428463B2; US10663221B2; US11408676B2; DE102016004606A1; WO2017178620A1; US9441877B2; US10502483B2

Designated contracting state (EPC)
DE DK

DOCDB simple family (publication)
DE 19716415 C1 19981022; AU 735800 B2 20010712; AU 7643698 A 19981113; DE 59810225 D1 20031224; EP 0975923 A1 20000202; EP 0975923 B1 20031119; MY 125139 A 20060731; NO 310124 B1 20010521; NO 995046 D0 19991015; NO 995046 L 19991122; RU 2212601 C2 20030920; US 6253574 B1 20010703; WO 9848227 A1 19981029

DOCDB simple family (application)
DE 19716415 A 19970418; AU 7643698 A 19980415; DE 59810225 T 19980415; EP 9802198 W 19980415; EP 98924120 A 19980415; MY PI19981746 A 19980418; NO 995046 A 19991015; RU 99123927 A 19980415; US 40310300 A 20000324