

Title (en)

NATURAL GAS LIQUEFACTION BY A HIGH PRESSURE EXPANSION PROCESS

Title (de)

ERDGASVERFLÜSSIGUNG DURCH EIN HOCHDRUCKEXPANSIONSVERFAHREN

Title (fr)

LIQUÉFACTION DE GAZ NATUREL AU MOYEN D'UN PROCÉDÉ DE DÉTENTE À HAUTE PRESSION

Publication

EP 3688390 A1 20200805 (EN)

Application

EP 18766444 A 20180824

Priority

- US 201762565725 P 20170929
- US 2018047955 W 20180824

Abstract (en)

[origin: US2019101327A1] A method and system for liquefying a methane-rich high-pressure feed gas stream using a system having first and second heat exchanger zones and a compressed refrigerant stream. The compressed refrigerant stream is cooled and directed to the second heat exchanger zone to additionally cool it below ambient temperature. It is then expanded and passed through the first heat exchanger zone such that it has a temperature that is cooler, by at least 5° F., than the highest fluid temperature within the first heat exchanger zone. The feed gas stream is passed through the first heat exchanger zone to cool at least part of it by indirect heat exchange with the refrigerant stream, thereby forming a liquefied gas stream. At least a portion of the first warm refrigerant stream is directed to the second heat exchanger zone to cool the refrigerant stream, which is compressed.

IPC 8 full level

F25J 1/00 (2006.01); **F25J 1/02** (2006.01)

CPC (source: EP US)

F25J 1/0022 (2013.01 - EP US); **F25J 1/0035** (2013.01 - EP US); **F25J 1/0037** (2013.01 - EP US); **F25J 1/0042** (2013.01 - EP US); **F25J 1/005** (2013.01 - EP US); **F25J 1/0055** (2013.01 - US); **F25J 1/0057** (2013.01 - US); **F25J 1/0072** (2013.01 - EP US); **F25J 1/0082** (2013.01 - EP US); **F25J 1/0205** (2013.01 - EP US); **F25J 1/0207** (2013.01 - EP US); **F25J 1/0208** (2013.01 - EP US); **F25J 1/0215** (2013.01 - EP US); **F25J 1/0219** (2013.01 - EP US); **F25J 1/025** (2013.01 - EP US); **F25J 1/0262** (2013.01 - US); **F25J 1/0263** (2013.01 - EP US); **F25J 1/0265** (2013.01 - EP US); **F25J 1/0268** (2013.01 - EP US); **F25J 2205/02** (2013.01 - US); **F25J 2210/60** (2013.01 - US); **F25J 2220/62** (2013.01 - EP US); **F25J 2230/30** (2013.01 - EP US); **F25J 2240/12** (2013.01 - US); **F25J 2245/90** (2013.01 - EP US); **F25J 2270/12** (2013.01 - US); **F25J 2270/90** (2013.01 - EP US); **F25J 2290/12** (2013.01 - US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

US 2019101327 A1 20190404; AU 2018342116 A1 20200326; AU 2018342116 B2 20210722; CA 3076605 A1 20190404; CA 3076605 C 20220628; EP 3688390 A1 20200805; JP 2020535376 A 20201203; JP 6945732 B2 20211006; SG 11202001875T A 20200429; WO 2019067123 A1 20190404

DOCDB simple family (application)

US 201816112093 A 20180824; AU 2018342116 A 20180824; CA 3076605 A 20180824; EP 18766444 A 20180824; JP 2020517802 A 20180824; SG 11202001875T A 20180824; US 2018047955 W 20180824