

Title (en)

EXPANDER-BASED LNG PRODUCTION PROCESSES ENHANCED WITH LIQUID NITROGEN

Title (de)

EXPANDERBASIERTE, MIT FLÜSSIGEM STICKSTOFF VERBESSERTE FLÜSSIGERDASPRODUKTIONSVERFAHREN

Title (fr)

PROCÉDÉS DE PRODUCTION DE GNL FAISANT INTERVENIR UN DÉTENDEUR ET AMÉLIORÉS AVEC DE L'AZOTE LIQUIDE

Publication

EP 3390939 A1 20181024 (EN)

Application

EP 16798358 A 20161110

Priority

- US 201562266979 P 20151214
- US 2016061246 W 20161110

Abstract (en)

[origin: US2017167785A1] A method for producing liquefied natural gas (LNG). A natural gas stream is directed to a mechanical refrigeration unit to liquefy the natural gas stream and form a pressurized liquefied natural gas (LNG) stream with a pressure greater than 50 psia (345 kPa) and less than 500 psia (3445 kPa). A liquid refrigerant subcooling unit is provided at a first location. Liquid refrigerant is produced at a second location that is geographically separate from the first location. The produced liquid refrigerant is transported to the first location. The pressurized LNG stream is subcooled in the liquid refrigerant subcooling unit by exchanging heat between the pressurized LNG stream and at least one stream of the liquid refrigerant to thereby produce an LNG stream.

IPC 8 full level

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

CPC (source: EP KR US)

F25J 1/0015 (2013.01 - EP US); **F25J 1/0022** (2013.01 - EP US); **F25J 1/0025** (2013.01 - EP KR US); **F25J 1/0035** (2013.01 - EP US); **F25J 1/0037** (2013.01 - EP KR US); **F25J 1/004** (2013.01 - EP US); **F25J 1/0042** (2013.01 - EP KR US); **F25J 1/0223** (2013.01 - EP KR US); **F25J 1/0224** (2013.01 - EP KR US); **F25J 1/0234** (2013.01 - EP KR US); **F25J 1/0248** (2013.01 - EP KR US); **F25J 1/0254** (2013.01 - EP KR US); **F25J 1/0264** (2013.01 - EP KR US); **F25J 1/0265** (2013.01 - EP KR US); **F25J 1/0278** (2013.01 - EP KR US); **F25J 1/0283** (2013.01 - EP US); **F25J 1/0288** (2013.01 - EP US); **F25J 2210/06** (2013.01 - EP US); **F25J 2210/42** (2013.01 - EP US); **F25J 2210/62** (2013.01 - EP US); **F25J 2230/42** (2013.01 - EP US); **F25J 2235/60** (2013.01 - EP US); **F25J 2245/42** (2013.01 - EP US); **F25J 2245/90** (2013.01 - EP US); **F25J 2270/06** (2013.01 - EP US); **F25J 2270/16** (2013.01 - EP US); **F25J 2290/34** (2013.01 - EP US)

Citation (search report)

See references of WO 2017105680A1

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 2017167785 A1 20170615; AU 2016372710 A1 20180524; AU 2016372710 B2 20190912; CA 3006956 A1 20170622; CA 3006956 C 20201027; CN 108369060 A 20180803; CN 108369060 B 20200619; EP 3390939 A1 20181024; EP 3390939 B1 20201230; JP 2019505755 A 20190228; JP 6772268 B2 20201021; KR 102137939 B1 20200727; KR 20180095870 A 20180828; SG 11201803523W A 20180628; WO 2017105680 A1 20170622

DOCDB simple family (application)

US 201615347983 A 20161110; AU 2016372710 A 20161110; CA 3006956 A 20161110; CN 201680069851 A 20161110; EP 16798358 A 20161110; JP 2018531111 A 20161110; KR 20187020137 A 20161110; SG 11201803523W A 20161110; US 2016061246 W 20161110