

Title (en)

Method for heating a turbine shaft

Title (de)

Verfahren zur Erwärmung einer Turbinenwelle

Title (fr)

Procédé de chauffage d'un arbre de turbine

Publication

EP 2396514 B1 20140305 (DE)

Application

EP 10702463 A 20100125

Priority

- EP 2010050800 W 20100125
- EP 09001828 A 20090210
- EP 10702463 A 20100125

Abstract (en)

[origin: EP2216506A1] The method involves heating a turbine shaft (1) by injecting warm water (5) until maximum warm-up speed is reached, where maximum warm-up speed values are between 8 hertz to 25 hertz. The warm water is supplied from a preheating section or a feed pump, where temperature level of the warm water lies between 100 degree Celsius to 350 degree Celsius. An independent claim is also included for a steam turbine comprising a turbine shaft.

IPC 8 full level

F01D 5/08 (2006.01); **F01D 19/00** (2006.01); **F01D 25/10** (2006.01)

CPC (source: EP US)

F01D 5/08 (2013.01 - EP US); **F01D 19/00** (2013.01 - EP US); **F01D 25/10** (2013.01 - EP US); **F05D 2220/31** (2013.01 - EP US); **F05D 2260/2322** (2013.01 - EP US); **F05D 2260/85** (2013.01 - EP US)

Designated contracting state (EPC)

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 SE SI SK SM TR

DOCDB simple family (publication)

EP 2216506 A1 20100811; CN 102317576 A 20120111; EP 2396514 A1 20111221; EP 2396514 B1 20140305; JP 2012517550 A 20120802; US 2011308251 A1 20111222; WO 2010091942 A1 20100819

DOCDB simple family (application)

EP 09001828 A 20090210; CN 201080007376 A 20100125; EP 10702463 A 20100125; EP 2010050800 W 20100125; JP 2011548639 A 20100125; US 201013148489 A 20100125