

Title (en)

PREVENTION OF ENCRUSTATION OF A STEAM TURBINE BLADE BY INJECTION OF PURE STEAM

Title (de)

VERMEIDUNG VON VERKRUSTUNG EINER DAMPFTURBINENSCHAUFEL DURCH REINDAMPFEINSPRITZUNG

Title (fr)

EVITER L'ENCRASSEMENT D'UNE AUBE DE TURBINE A VAPEUR PAR INJECTION DE VAPEUR PURIFIEE

Publication

EP 0886722 B1 20030820 (DE)

Application

EP 97915337 A 19970306

Priority

- DE 9700430 W 19970306
- DE 19610134 A 19960314

Abstract (en)

[origin: WO9734075A1] The invention concerns a steam turbine (14) with a turbine blade (1) aligned along a principal axis (2) and provided with a curved flow surface (3) for steam. A fluid feed duct (5) is provided in the interior (4) of the turbine blade (1) and connected fluidically to a plurality of fluid outlets (6), each fluid outlet (6) opening out at the flow surface (3) to deliver pure steam. Feeding pure steam creates a protective fluid film, in particular of steam, over the flow surface and if necessary other areas of the turbine blade surface. The steam film forms a boundary layer around the turbine blade which to a large extent keeps the steam flowing through the steam turbine away from the blade surface. It is therefore possible to operate the steam turbine with a corrosive steam produced, for example, from drying brown coal or other combustible material. The steam film prevents impurities from becoming encrusted. The invention also relates to a use of the steam turbine (14) in a facility (17) for drying brown coal, in which the steam released in the drying process is fed into the steam turbine (14).

IPC 1-7

F01D 5/28; **F01D 25/00**

IPC 8 full level

F01D 5/28 (2006.01); **F01D 25/00** (2006.01); **F01K 21/06** (2006.01)

CPC (source: EP)

F01D 5/28 (2013.01); **F01D 25/007** (2013.01); **F05D 2260/202** (2013.01)

Designated contracting state (EPC)

DE DK

DOCDB simple family (publication)

WO 9734075 A1 19970918; CN 1084823 C 20020515; CN 1218533 A 19990602; DE 59710616 D1 20031002; EP 0886722 A1 19981230; EP 0886722 B1 20030820; JP 2000506246 A 20000523; JP 3863185 B2 20061227

DOCDB simple family (application)

DE 9700430 W 19970306; CN 97194591 A 19970306; DE 59710616 T 19970306; EP 97915337 A 19970306; JP 53218197 A 19970306