

Title (en)

A METHOD AND A SYSTEM FOR EXTENDING THE LOAD RANGE OF A POWER PLANT COMPRISING A BOILER SUPPLYING STEAM TO A STEAM TURBINE

Title (de)

VERFAHREN UND SYSTEM ZUR ERWEITERUNG DES LASTBEREICHES EINES KRAFTWERKS MIT EINEM KESSEL ZUR ZUFÜHRUNG VON DAMPF AN EINE DAMPFTURBINE

Title (fr)

PROCÉDÉ ET SYSTÈME PERMETTANT D'ÉTENDRE LA PLAGE DE CHARGE D'UNE CENTRALE ÉLECTRIQUE COMPRENANT UNE CHAUDIÈRE FOURNISSANT DE LA VAPEUR À UNE TURBINE À VAPEUR

Publication

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Application

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Priority

FI 20175419 A 20170510

Abstract (en)

[origin: EP3415816A1] The solution comprises a method of and a system for extending the load range for viable operating W v of a steam turbine power plant comprising a boiler (10) with a superheater (11) supplying superheated steam to a steam turbine (3), which steam turbine has a required minimum viable temperature T v of steam entering the steam turbine. According to the solution, the load range for viable operating W v of the power plant may be extended by means of controllably using an auxiliary superheating chamber (1) comprising an auxiliary superheater (2) to further superheat steam, which controllable use may be effected by a control unit (23) thusly adapted. The solution enables the required minimum viable temperature T v of steam entering the steam turbine to be satisfied both within the load range for normal operating of the power plant and the load range for low load operating of the power plant.

IPC 8 full level

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Citation (opposition)

Opponent : Sumitomo SHI FW Energia Oy

- SU 1208406 A1 19860130 - TEPLOTEKH NII [SU]
- JP H05256428 A 19931005
- WO 2008156397 A1 20081224 - METSO POWER AB [SE], et al
- US 5509997 A 19960423 - KUUSIO MARJO [FI], et al
- US 3213831 A 19651026 - HOCHMUTH FRANK W
- US 2005252624 A1 20051117 - IMELAINEN KEIJO [FI]
- US 4676177 A 19870630 - ENGSTROM FOLKE [FI]
- WO 03095738 A1 20031120 - ANDRITZ OY [FI], et al
- SU 1048237 A1 19831015 - ZAOCH POLT I [SU]
- US 2606103 A 19520805 - HAMM ALEXANDER L
- JP H04129601 U 19921127
- US 5239946 A 19930831 - GARCIA-MALLOL JUAN A [US]
- JP H08303718 A 19961122 - MITSUBISHI HEAVY IND LTD
- GB 682410 A 19521112 - VICKERS ELECTRICAL CO LTD
- US 3002347 A 19611003 - SPRAGUE THEODORE S
- "Steam, its generation and use", 1 January 2005, THE BABCOCK & WILCOX COMPANY, article KITTO JOHN B., STULTZ STEVEN C.: "Chapter 19 Boilers, Superheaters and Reheaters. Chapter 41", XP055937848

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