Title (en)

STEAM-RECYCLING SYSTEM FOR A LOW PRESSURE STEAM TURBINE

Title (de)

DAMPFRECYCLINGSYSTEM EINER NIEDERDRUCK-DAMPFTURBINE

Title (fr)

SYSTÈME DE RECYCLAGE DE VAPEUR POUR UNE TURBINE À VAPEUR BASSE PRESSION

Publication

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Application

EP 17197248 A 20171019

Priority

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Abstract (en)

A steam-recycling system for a power plant with a steam generator and a low pressure steam turbine is disclosed, which comprises a main condenser (3), a cooling system, an exhaust line (21) for transporting a low mass flow exhaust steam from an exhaust (2) of a low pressure steam turbine (1) to the main condenser (3), and a bypass line (5) for transporting a high mass flow steam from a steam generator for condensation without passing through the low pressure steam turbine (1), wherein the bypass line (5) is separated from the exhaust line (21), and wherein the bypass line (5) comprises at least one additional steam-condensing means (6,7), which are connected to the cooling system, which is adapted for cooling of the steam entering the main condenser (3) and the steam entering the additional steam-condensing means (6,7). A power plant comprising a steam-recycling system according to the present invention is, as well as a method of processing of the steam generated in the power plant during a low flow mode is disclosed. By providing a bypass system with additional steam-condensing means, the pressure in the main condenser is reduced, thus allowing for reduction of the mass flow of the steam entering the main surface condenser, reduction of the back pressure in the exhaust system and reduction of the deterioration of the material of the last stage blades, thus widening the operation range of the maintenance/non-production/low flow mode.

IPC 8 full level

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CPC (source: EP KR)

F01K 9/003 (2013.01 - EP KR); **F01K 11/02** (2013.01 - EP KR); **F01K 13/02** (2013.01 - KR); **F25B 13/00** (2013.01 - KR); **F28B 1/06** (2013.01 - KR)

Citation (applicant)

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