

Title (en)

Steam generator with a feedwater tube with a device for inhibiting thermal stratification.

Title (de)

Dampfzeuger mit einem Speisewasserrohr mit einer Einrichtung zum Verhindern von thermischer Stratifikation.

Title (fr)

Générateur de vapeur à tuyau d'alimentation muni d'un dispositif anti-stratification thermique.

Publication

EP 0297968 A1 19890104 (FR)

Application

EP 88401636 A 19880627

Priority

FR 8709219 A 19870630

Abstract (en)

[origin: JPS6423003A] PURPOSE: To prevent thermal stratification in a feed pipe of a steam generator by combining a helix adapted to partially cut cold water and a rising break part formed by a dual bend in the feed pipe. CONSTITUTION: Upstream and downstream parts 11 and 13 of a feed pipe are made horizontal and the downstream part is arranged somewhat at a higher level to form a rising vertical break part while the central part 12 is inclined at an angle to the plane. A fixed helix 14 is arranged within the downstream part 13. Cold water enters a lower part reaching the helix 14 and comes into a channel 17f and further the channels 17g and 17d. The channels are all set at a higher level than the cross section of an inlet and cold water gathers to the upstream side of the helix 14, gradually raising the level thereof. This action continues until the cold water reaches a height (h) corresponding to the lowest point of the channel 17s while the cross section of the channel 17s has a height decreasing from the cross section of the inlet and hot water fills the remaining part of the pipe. The cold water begins to flow into the upper channel 17s which has a downward inclination and freely flows over the helix 14.

Abstract (fr)

Une hélice fixe (14) en aval d'un décrochement ascendant (12) du tuyau sépare son intérieur en canaux torsadés ; l'eau froide entrant à faible débit est bloquée en amont jusqu'à la hauteur (h) et emplît complètement une partie amont (11) à protéger contre les gradients thermiques.

IPC 1-7

F22B 37/18; **F22B 37/22**

IPC 8 full level

F22D 7/06 (2006.01); **F22B 37/18** (2006.01); **F22B 37/22** (2006.01)

CPC (source: EP KR US)

F22B 37/18 (2013.01 - EP KR US); **F22B 37/228** (2013.01 - EP US)

Citation (search report)

- [A] GB 2157407 A 19851023 - WESTINGHOUSE ELECTRIC CORP
- [A] EP 0210895 A1 19870204 - FRAMATOME SA [FR]
- [A] EP 0216667 A1 19870401 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
- [A] EP 0045034 A1 19820203 - KRAFTWERK UNION AG [DE]

Cited by

WO9320386A1

Designated contracting state (EPC)

BE CH DE ES GB LI SE

DOCDB simple family (publication)

EP 0297968 A1 19890104; **EP 0297968 B1 19920102**; CN 1007450 B 19900404; CN 88104070 A 19881221; DE 297968 T1 19890420; DE 3867337 D1 19920213; ES 2005536 A4 19890316; ES 2005536 T3 19920701; FR 2617570 A1 19890106; FR 2617570 B1 19891201; JP S6423003 A 19890125; KR 0139646 B1 19980701; KR 890000827 A 19890316; US 4870927 A 19891003

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EP 88401636 A 19880627; CN 88104070 A 19880629; DE 3867337 T 19880627; DE 88401636 T 19880627; ES 88401636 T 19880627; FR 8709219 A 19870630; JP 16409588 A 19880630; KR 880007867 A 19880629; US 21356488 A 19880630