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**(54) Title (EN):** SYSTEM AND PROCESS FOR TREATMENT OF THE MAKE-UP WATER OF A WATER COOLING CIRCUIT

**(54) Title (FR):** SYSTEME ET PROCEDE DE TRAITEMENT DE L'EAU D'APPOINT D'UN CIRCUIT DE REFROIDISSEMENT D'EAU

**(57) Abstract:**

**(EN):** Cooling circuit, especially of an industrial unit or of an electric and/or nuclear power plant comprising a system for treating the make-up water of the cooling circuit, comprising a tank that receives make-up water, said tank containing collection means capable of absorbing and/or collecting and/or fixing cations in the make-up water, the treated make-up water exiting said tank being injected into said cooling circuit, said system comprising a regeneration column which is separated from said tank and is connected thereto by means of a circulation circuit in order to transfer at least one portion of said cation-loaded collection means from said tank to said regeneration column, in which said loaded collection means are regenerated and/or cleaned up, said regenerated and/or cleaned-up collection means being reinjected into said tank, the supply of the make-up water into said tank and the supply of the treated make-up water from said tank to said cooling circuit operating continuously, the supply flow rate of the make-up water into said tank being greater than around  $1 \text{ m}^3/\text{s}$ , and the percolation surface area of said tank being able to reach more than  $250 \text{ m}^2$ .

**(FR):** Circuit de refroidissement, notamment d'une unité industrielle ou d'une centrale électrique et/ou nucléaire comportant un système de traitement de l'eau d'appoint du circuit de refroidissement, comprenant un bassin recevant de l'eau d'appoint, ledit bassin contenant des moyens de captation adaptés à absorber et/ou capter et/ou fixer des cations présents dans l'eau d'appoint, l'eau d'appoint traitée sortant dudit bassin étant injectée dans ledit circuit de refroidissement, ledit système comportant une colonne de régénération, séparée dudit bassin, et reliée à celui-ci par un circuit de circulation pour transférer au moins une partie desdits moyens de captation chargés de cations dudit bassin vers ladite colonne de régénération, dans laquelle lesdits moyens de captation chargés sont régénérés et/ou dépollués, lesdits moyens de captation régénérés et/ou dépollués étant réinjectés dans ledit bassin, l'alimentation de l'eau d'appoint dans ledit bassin et l'alimentation de l'eau d'appoint traitée dudit bassin vers ledit circuit de refroidissement fonctionnant en continu, le débit d'alimentation de l'eau d'appoint dans ledit bassin étant supérieur à environ  $1 \text{ m}^3/\text{s}$ , et la surface de percolation dudit bassin pouvant atteindre plus de  $250 \text{ m}^2$ .

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