

Title (en)

NUCLEAR POWERED STEAM EXPANSION ENGINE AND A NUCLEAR POWERED GENERATOR WITH METHOD OF OPERATION

Title (de)

VON KERNENERGIE BETRIEBENE EXPANSIONSDAMPFMACHINE, KERNENERGIEGENERATOR UND DESSEN BETRIEBSVERFAHREN

Title (fr)

MOTEUR A DETENTE DE VAPEUR MU PAR L'ENERGIE NUCLEAIRE ET GENERATEUR NUCLEAIRE AVEC PROCEDE DE FONCTIONNEMENT

Publication

**EP 1074024 A1 20010207 (EN)**

Application

**EP 99917304 A 19990305**

Priority

- US 9905448 W 19990305
- US 7691798 P 19980305

Abstract (en)

[origin: WO9945545A1] A nuclear power generator having a nuclear fuel assembly which is periodically adjacent first to a first nuclear reactor containing fresh nuclear fuel where the fuel assembly achieves a supercritical state, and then adjacent to a second nuclear reactor containing spent nuclear fuel where delayed neutrons resulting from the supercritical state of the fuel assembly cause a supercritical state in the spent fuel thereby releasing heat. A nuclear powered steam expansion engine capable of converting nuclear energy to mechanical work by periodically bringing into proximity two nuclear fuel assemblies within a piston and cylinder assembly, thus making the fuel assemblies successively supercritical and subcritical in cyclical fashion, with associated cyclical heating, periodically injecting water into the resultant heated cylinder, which water is converted to steam which expands, drives the piston, and produces mechanical work, recycling the expanded steam by adding additional heat during an exhaust stroke, and using the recycled steam to drive a turbine system.

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IPC 8 full level

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