

Title (en)

POWER FROM FISSION OF SPENT NUCLEAR WASTER

Title (de)

VORRICHTUNG ZUR ENERGIEERZEUGUNG DURCH FISSION VON NUKLEAREM ABFALL

Title (fr)

ENERGIE PROVENANT DE LA FISSION DE DECHETS NUCLEAIRES REJETES

Publication

EP 1234309 A2 20020828 (EN)

Application

EP 00936135 A 20000519

Priority

- US 0013922 W 20000519
- US 31670099 A 19990521

Abstract (en)

[origin: WO0072329A2] A linear accelerator, preferably of the monochromatic type, accelerates electrons to an energy of about 10 MeV which are directed onto a high Z target such as tungsten to generate gamma rays which are directed onto the fuel material such as U<238> which results in the (γ \rightarrow f) reaction, thus releasing about 200 MeV. A reactor built according to this principle requiring an accelerator driven by 1 MW will develop about 20 MW of power. The reaction is not self-sustaining and stops when the beam is turned off. This accelerator driven reactor may be used to "burn-up" spent fuel from fission reactors, if simply operated at 10 MeV. The photo-fission results in typical spent fuel waste products such as Cs<137> and Sr<90> which undergo photodisintegration by the (γ ,n) reaction resulting in short lived or stable products.

IPC 1-7

G21G 1/12

IPC 8 full level

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CPC (source: EP KR)

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