CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS

(NOTES omitted)

NUCLEONICS

G21 NUCLEAR PHYSICS; NUCLEAR ENGINEERING

G21D NUCLEAR POWER PLANT

1/00 **Details of nuclear power plant** (control G21D 3/00)

1/003 . {Nuclear facilities decommissioning arrangements (decontamination arrangements, treating radioactively contaminated material G21F 9/00)}

1/006 . {primary side of steam generators (secondary side of steam generators F22B 1/00, F22B 35/00 or F22B 37/00)}

1/02 . Arrangements of auxiliary equipment

1/04 . Pumping arrangements (within the reactor pressure vessel G21C 15/24; electrodynamic pumps H02K 44/02)

3/00 **Control of nuclear power plant** (control of nuclear reaction in general G21C 7/00)

3/001 . {Computer implemented control}

3/002 . . {Core design; core simulations; core optimisation}

3/004 . . {Fuel shuffle simulation; fuel shuffle optimisation}

3/005 . . {Thermo-hydraulic simulations}

3/007 . {Expert systems}

3/008 . {Man-machine interface, e.g. control room layout}

3/02 . Manual control

3/04 . Safety arrangements (emergency protection of reactor G21C 9/00)

3/06 . . responsive to faults within the plant (in the reactor G21C 9/00)

3/08 . Regulation of any parameters in the plant

3/10 . . by a combination of a variable derived from neutron flux with other controlling variables, e.g. derived from temperature, cooling flow, pressure

3/12 . . by adjustment of the reactor in response only to changes in engine demand

3/14 . . . Varying flow of coolant

3/16 . . . Varying reactivity

3/18 . . by adjustment of plant external to the reactor only in response to change in reactivity

5/00 **Arrangements of reactor and engine in which reactor-produced heat is converted into mechanical energy**

5/02 . Reactor and engine structurally combined, e.g. portable

5/04 . Reactor and engine not structurally combined

5/06 . . with engine working medium circulating through reactor core

5/08 . . with engine working medium heated in a heat exchanger by the reactor coolant

5/10 . . . Liquid working medium partially heated by reactor and vaporised by heat source external to the core, e.g. with oil heating

5/12 . . . Liquid working medium vaporised by reactor coolant

5/14 . . . . and also superheated by reactor coolant

5/16 . . . . superheated by separate heat source

7/00 **Arrangements for direct production of electric energy from fusion or fission reactions** (obtaining electric energy from radioactive sources G21H 1/00)

7/02 . using magneto-hydrodynamic generators {(MHD-generators with thermodynamic cycles F02C 7/00; magneto-hydrodynamic generators H02K 44/08)}

7/04 . using thermoelectric elements {or thermoionic converters} (structural combination of fuel element with thermoelectric element {or with thermoionic converters} G21C 3/40 {, G21H 1/10}; thermoelectric elements per se H01L 35/00, H01L 37/00)

9/00 **Arrangements to provide heat for purposes other than conversion into power, e.g. for heating buildings**