

SECTION G — PHYSICS

G21 NUCLEAR PHYSICS; NUCLEAR ENGINEERING

G21D NUCLEAR POWER PLANT

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

- 1/02 • Arrangements of auxiliary equipment
- 1/04 • Pumping arrangements (by means within the reactor pressure vessel G21C 15/24)

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

- 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 9/02)
 - 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
- 7/04 • using thermoelectric elements (structural combination of fuel element with thermoelectric element G21C 3/40)

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