

CPC**COOPERATIVE PATENT CLASSIFICATION****G21D**

NUCLEAR POWER PLANT (electric or magnetic analogue computers, e.g. simulators, for nuclear physics [G06G 7/54](#))

G21D 1/00

Details of nuclear power plant (control [G21D 3/00](#))

G21D 1/003

- . { **Nuclear facilities decommissioning arrangements** (decontamination arrangements, treating radioactively contaminated material [G21F 9/00](#)) }

G21D 1/006

- . { **primary side of steam generators** (secondary side of steam generators [F22B1](#), [F22B35](#) or [F22B37](#)) }

G21D 1/02

- . Arrangements of auxiliary equipment

G21D 1/04

- . Pumping arrangements (within the reactor pressure vessel [G21C 15/24](#); electrodynamic pumps [H02K 44/02](#))

G21D 3/00

Control of nuclear power plant (control of nuclear reaction in general [G21C 7/00](#))

G21D 3/001

- . { **Computer implemented control** }

G21D 2003/002

- .. Core design; Core simulations

G21D 2003/004

- .. Fuel shuffle simulations

G21D 2003/005

- .. Thermo-hydraulic simulations

G21D 2003/007

- . Expert systems

G21D 3/008

- . { **Man-machine interface, e.g. control room layout** }

G21D 3/02

- . Manual control

G21D 3/04

- . Safety arrangements (**emergency protection of reactor** [G21C 9/00](#))

G21D 3/06

- .. responsive to faults within the plant (**in the reactor** [G21C 9/00](#))

G21D 3/08

- . Regulation of any parameters in the plant

G21D 3/10

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

G21D 3/12

- .. by adjustment of the reactor in response only to changes in engine demand

G21D 3/14

- ... Varying flow of coolant

G21D 3/16

- ... Varying reactivity

G21D 3/18

- .. by adjustment of plant external to the reactor only in response to change in reactivity

G21D 5/00

Arrangements of reactor and engine in which reactor-produced heat is converted into mechanical energy

G21D 5/02

- . Reactor and engine structurally combined, e.g. portable

- G21D 5/04 . Reactor and engine not structurally combined
- G21D 5/06 . . with engine working medium circulating through reactor core
- G21D 5/08 . . with engine working medium heated in a heat exchanger by the reactor coolant
- G21D 5/10 . . . Liquid working medium partially heated by reactor and vaporised by heat source external to the core, e.g. with oil heating
- G21D 5/12 . . . Liquid working medium vaporised by reactor coolant
- G21D 5/14 . . . and also superheated by reactor coolant
- G21D 5/16 . . . superheated by separate heat source

- G21D 7/00 Arrangements for direct production of electric energy from fusion or fission reactions (obtaining electric energy from radioactive sources [G21H 1/00](#))**

- G21D 7/02 . using magneto-hydrodynamic generators { (MHD-generators with thermodynamic cycles [F02C 7/00](#); magneto-hydrodynamic generators [H02K 44/08](#)) }
- G21D 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](#))

- G21D 9/00 Arrangements to provide heat for purposes other than conversion into power, e.g. for heating buildings**

- G21D 2010/00 Protection of plant or environment from mutual hazards : means for monitoring the effects of plant or environment upon each other**