

G21D

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

Definition statement

This place covers:

Aspects of power plants which include, as a power generator, a nuclear fission reactor. Also power plants which convert the heat produced by the fission reaction into forms of energy other than electricity (e.g. mechanical energy).

References

Limiting references

This place does not cover:

Nuclear fusion reactors	G21B
Aspects related to nuclear fission reactors per se	G21C
Structural combination of fuel element with thermoelectric element	G21C 3/40
Control of nuclear reaction	G21C 7/00
Emergency protection arrangements structurally associated with a reactor; for rapid reduction of reactivity under fault conditions; for suppressing fires	G21C 9/00 , G21C 9/02 , G21C 9/04
Pumping arrangements for the coolant by means within the reactor pressure vessel	G21C 15/24
Obtaining electrical energy from radioactive sources	G21H 1/00
Nuclear explosives and their applications	G21J

Informative references

Attention is drawn to the following places, which may be of interest for search:

Electric or magnetic analogue computers, e.g. simulators, for nuclear physics	G06G 7/54
Thermoelectric elements per se	H01L 35/00 , H01L 37/00
Electrodynamic pumps	H02K 44/02

Special rules of classification

Classification of both important (invention) information and additional information is obligatory.

The following Indexing Codes do not follow the general EC/Indexing Code parallel scheme but are used to classify additional invention information for which an EC class is presently not available: [G21D 2003/002](#), [G21D 2003/004](#), [G21D 2003/005](#). If appropriate, these Indexing Codes must be assigned if the corresponding EC subgroup is given, i.e. if [G21D 3/001](#) is assigned.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Engine	plant, such as turbine
Engine demand	load

G21D 1/00

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

Definition statement

This place covers:

Details of the nuclear power plant, other than details of the nuclear reactor per se.

References

Limiting references

This place does not cover:

Control of nuclear power plant	G21D 3/00
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Pumps for liquids per se	F04
Dismantling spent nuclear fuel	G21C 19/34

G21D 1/006

{primary side of steam generators (secondary side of steam generators [F22B 1/00](#), [F22B 35/00](#) or [F22B 37/00](#))}

Definition statement

This place covers:

Steam generator replacements.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Secondary side of steam generators	F22B 1/00 , F22B 35/00 , F22B 37/00
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G21D 3/00

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

Definition statement

This place covers:

Aspects of the control of nuclear power plants, other than the control of the nuclear fission reaction per se.

References

Limiting references

This place does not cover:

Control of nuclear reaction	G21C 7/00
Emergency protection structurally associated with the reactor	G21C 9/00
Emergency cooling arrangements (primary circuit)	G21C 15/18

Informative references

Attention is drawn to the following places, which may be of interest for search:

Electrical digital data processing	G06F
Analog computers	G06G

G21D 3/001

{Computer implemented control}

Definition statement

This place covers:

Computer implemented systems and methods related to nuclear reactor applications, such as design, licensing procedures, fuel shuffling, core loading patterns, data processing, etc.

Special rules of classification

When this class is assigned, if appropriate, an additional Indexing Code amongst [G21D 2003/002](#), [G21D 2003/004](#) and [G21D 2003/005](#) should also be assigned.

G21D 5/00

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

Definition statement

This place covers:

Nuclear propulsion, e.g. for applications in ships, submarines and space crafts.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Arrangements or adaptations of propulsion systems of cosmonautic vehicles	B64G 1/408
Plants characterised by the use of steam or heat accumulators using nuclear heat;	F01K 3/181
Gas-turbine plants characterised by the use of hot gases or unheated pressurised gases using nuclear energy	F02C 1/05

G21D 7/00

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

References**Limiting references**

This place does not cover:

Obtaining energy from radioactive sources	G21H 1/00
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G21D 9/00

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

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Methods and apparatus for obtaining oil, gas, water, soluble or meltable materials or a slurry of minerals from wells by means of nuclear energy	E21B 43/2403
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