



Handbook of Small Modular Nuclear Reactors

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This book provides a comprehensive review of the design characteristics of small modular reactors and the development and deployment of this emerging trend in nuclear power.

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AUDIENCE

Engineers and designers working on reactors and nuclear materials, nuclear power operators and regulators, and academics working in this field will find this book a comprehensive resource.

KEY FEATURES

- Gives an overview of small modular reactor technology
- Reviews the design characteristics of integral pressurized water reactors and focuses on reactor core and fuel technologies, key reactor system components, instrumentation and control, human-system interfaces and safety
- Considers the economics, financing, licensing, construction methods and hybrid energy systems of small modular reactors
- Describes SMR development activities worldwide, and concludes with a discussion of how SMR deployment can contribute to the growth of developing countries

DESCRIPTION

Small modular reactors (SMRs) are an advanced, safe type of nuclear reactor technology that are suitable for small and medium sized applications including both power and heat generation. In particular, their use as individual units or in combination to scale-up capacity offer benefits in terms of siting, installation, operation, lifecycle and economics in comparison to the development of larger nuclear plant for centralised electricity power grids. Interest has increased in the research and development of SMRs for both developing countries as well as such additional cogeneration options as industrial/chemical process heat, desalination and district heating, and hydrogen production. This book reviews key issues in their development as well as international R&D in the field.

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