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Combined Cycle Driven Efficiency for Next Generation Nuclear Power Plants

An Innovative Design Approach

- **Introduces the concept of combined cycle nuclear plants, explaining how recent advances in gas turbines have made these systems increasingly desirable**
- **Promulgates modelling and analysis techniques to identify opportunities for increased thermodynamic efficiency and decreased water usage over current Light Water Reactor (LWR) systems**
- **Examines all power conversion aspects from the fluid exiting the reactor to the energy releases to the environment, with special focus on heat exchangers and turbo-machinery**
- **Provides examples of small projects to facilitate nuanced understanding of the theories and implementation of combined-cycle nuclear plants**

Introduces the concept of combined cycles for next generation nuclear power plants, explaining how recent advances in gas turbines have made these systems increasingly desirable for efficiency gains and cost-of-ownership reduction. Promulgates modelling and analysis techniques to identify opportunities for increased thermodynamic efficiency and decreased water usage over current Light Water Reactor (LWR) systems. Examines all power conversion aspects, from the fluid exiting the reactor to energy releases into the environment, with special focus on heat exchangers and turbo-machinery. Provides examples of small projects to facilitate nuanced understanding of the theories and implementation of combined-cycle nuclear plants. This book explores combined cycle driven efficiency of new nuclear power plants and describes how to model and analyze a nuclear heated multi-turbine power conversion system operating with atmospheric air as the working fluid.

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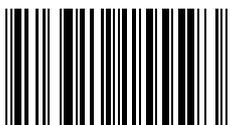
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