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Titolo	Application of Compact Heat Exchangers For Combined Cycle Driven Efficiency In Next Generation Nuclear Power Plants : A Novel Approach / / by Bahman Zohuri
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Descrizione fisica	1 online resource (379 p.)
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Soggetti	Nuclear energy Thermodynamics Heat engineering Heat - Transmission Mass transfer Nuclear Energy Engineering Thermodynamics, Heat and Mass Transfer
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Sommario/riassunto	Covers the fundamentals of combined-cycle plants to provide background for understanding the progressive design approaches at the heart of the text. Discusses the types of compact heat exchanger surfaces, suggesting novel designs that can be considered for optimal cost effectiveness and maximum energy production. Undertakes the thermal analysis of these compact heat exchangers throughout the life cycle, from the design perspective through operational and safety assurance stages. This book describes the quest to create novel designs for compact heat exchangers in support of emergent combined cycle nuclear plants. The text opens with a concise explanation of the fundamentals of combined cycles, describing their efficiency impacts on electrical power generation systems. It then covers the implementation of these principles in nuclear reactor power systems,

focusing on the role of compact heat exchangers in the combined cycle loop and applying them to the challenges facing actual nuclear power systems. The various types of compact heat exchanger surfaces and designs are given thorough consideration before the author turns his attention to discussing current and projected reactor systems, and how the novel design of these compact heat exchangers can be applied to innovative designs, operation and safety analyses to optimize thermal efficiency. The book is written at an undergraduate level, but will be useful to practicing engineers and scientists as well. .
