

BOOK REVIEWS

Selection of books for review is based on the editors' opinions regarding possible reader interest and on the availability of the book to the editors. Occasional selections may include books on topics somewhat peripheral to the subject matter ordinarily considered acceptable.



Nuclear Criticality Safety

<i>Editor</i>	R. Douglas O'Dell
<i>Publisher</i>	Technical Information Center, Office of Information Services, United States Atomic Energy Commission, Oak Ridge, Tennessee 37830
<i>Pages</i>	181
<i>Price</i>	\$7.60
<i>Reviewer</i>	G. Ronald Dalton

There are two separate parts to his book. The first is a series of technical presentations concerning nuclear criticality safety. The second part consists of edited transcripts of panel discussions concerning philosophy, licensing, management, etc. of facilities where criticality may be a problem.

The technical articles include a survey of historical criticality accidents, concepts of criticality in conventional and exotic isotopic systems, with considerable useful data. There is a presentation of the concept of criticality calculations, calculation of repeating arrays (with many examples), and bias uncertainty in applications of calculations. The final papers concern the roles of management and operating personnel in accident analysis, prevention, and control. Evaluation of multiple sources of risk and the interaction of internal reporting and review with governmental inspection and regulation are also presented.

The panel/work discussions cover a wide range of topics: interpretation of Monte Carlo calculations, procedures and practices, operator training process management, mixed oxides and actinides, shielded facilities, fire protection, and transportation. The final two papers on licensing nuclear fuel facilities and promulgation of nuclear standards, like the discussions, give the broad perspective without being troubled with the technical details.

This publication should certainly be in the library of every nuclear facility and on the bookshelf of those working in the field of nuclear criticality and safety.

G. R. Dalton has a BS and PhD from the University of Michigan and graduated from the Oak Ridge School of Reactor Technology. He has taught nuclear engineering at the University of Florida since 1960. Since 1966, Dalton has been teaching undergraduate nuclear engineering courses, and has a continuing interest in graduate education in the fields of reactor analysis, transport theory calculations, and fuel management.

Power Plants with Air-Cooled Condensing Systems

<i>Author</i>	E. S. Miliaras
<i>Publisher</i>	MIT Press
<i>Pages</i>	237
<i>Price</i>	\$12.95
<i>Reviewer</i>	J. F. Bregar

In this country, there has been little interest in air-cooled condensing systems for power plants except for a few special cases. (The SL-1 Reactor at the National Reactor Testing Station, Idaho Falls, Idaho, had an air-cooled condenser). In the last decade heavy pressure to restrict the discharge of heated water from power plant condensers has stirred considerable interest in air-cooled condensing systems. This timely volume should prove useful to those who wish to know the state of the art.

After a brief introduction, the author describes the principal air-cooled condensing systems: the direct system and the indirect or Heller system. These descriptions are based on plants that have been designed and placed in operation in Europe during the past 30 years.

Also included are chapters on extended surface heat exchangers, cooling towers, spray condensers, and feedwater treatment. Nearly half of the book is devoted to plant performance data and operating characteristics.

An extensive bibliography is included at the end of each chapter. However, the text is not keyed to these references, so that the reader may have some difficulty relating text material to the appropriate reference.

To shorten the gap between manuscript preparation and publication, the plates have been prepared directly from photographs of the author's manuscript. As a consequence, right-hand margins are not justified and many of the illustrations are copied directly from the original articles. The reader will