

BOOK REVIEWS

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



Earthquake Protection of Essential Building Equipment

Author Gary L. McGavin
Publisher John Wiley & Sons, Inc.
Somerset, New Jersey (1981)
Pages 464
Price \$35.00
Reviewer George W. Housner

The author of this book was educated as a geologist (BA) and an architect (MA), and he is currently working in an architectural firm. The Preface states that the book will be found useful by design professionals such as architects and electrical, mechanical, plumbing, and structural engineers, as well as building owners, facility operators, equipment manufacturers, building departments, inspectors, and students. The treatment of the subject is at an introductory level and is not suitable for those responsible for the design of nuclear power plants. Chapter 1 consists of 15 pages of discussion about the nature of earthquakes; Chap. 2 contains 15 pages devoted to earthquake resistant design-basic principles. (Equation 2.6 needs correction and Eq. 2.10 needs an explanation that pounds, inches, and seconds are the units.) Chapter 3 (231 pages) and Chap. 4 (79 pages) form the main part of the book. Chapter 3 (essential facilities, qualification programs, systems, and equipment) contains photographs and discussions of a wide variety of equipment, etc., whose integrity during earthquakes might be of concern. Chapter 4, anchorage and installation details, contains many architect-type drawings of equipment showing how it might be supported and anchored, but no sizes are indicated. Appendix 1 (62 pages) discusses codes and specifications and their relation to seismic design of equipment. Appendix 2 (16 pages) lists many equipment manufacturers. Appendix 3 (24 pages) presents more detailed architectural drawings of equipment supports. The reviewer thinks that this book would be useful for architects, equipment manufacturers, and others who do not have technical training but who need to understand the nature of the problem.

George W. Housner is C. F. Braun Professor of Engineering at the California Institute of Technology. He is past-president of the Earthquake Engineering Research Institute, the Seismological Society of America, and the International Association for Earthquake Engineering, and is well known for his research in earthquake ground shaking and the behavior of structures.

Heat Transfer in Nuclear Reactor Safety

Editors S. George Bankoff and N. H. Afgan
Publisher Hemisphere Publishing Corporation
New York (1982)
Pages 964
Price \$95.00
Reviewer Joel Weisman

This volume contains the 59 papers that were presented at the International Centre for Heat and Mass Transfer Seminar on Nuclear Reactor Heat Transfer. The proceedings of the conference, which took place in Dubrovnik, Yugoslavia, in September 1980, join a growing list of texts that present a series of loosely connected research papers on heat transfer, two-phase flow, reactor safety, etc., which one might normally expect to find in the journal literature. A review of such a volume therefore presents the same sort of problems one would encounter if asked to review a complete issue of *Nuclear Technology*.

Bankoff and Afgan have made an effort to present an up-to-date summary of the state of the art by inviting 11 papers on large-scale experiments and computational efforts from the several countries involved in this area of research. In addition, they were able to achieve substantial participation from representatives from China and of the Eastern bloc countries, including the Soviet Union. As a result, the present volume provides a more international perspective of current research than is generally seen.

The 11 invited papers are primarily general review papers covering such subjects as modeling of a small break loss-of-coolant accident, current Japanese reactor safety heat transfer research, liquid-metal fast breeder reactor (LMFBR) safety, and mathematical modeling. These papers present little that is completely new but do provide an interesting overall perspective on the areas discussed. The views of the Japanese and Soviet contributors are particularly noteworthy. However, the use of the Cyrillic alphabet by most of the Soviet authors for listing the Russian references limits the usefulness of their reviews.

The majority of the volume is devoted to light water reactor (LWR) safety heat transfer and related topics. Forty of the contributed papers fall into this category. Nearly all of these papers represent original contributions to the field. However, there are a few review papers, most notably that of Noailly on Framatome research in reactor thermal hydraulics. As may be expected, there is a wide range in the quality of the contributed papers.