

## Book Reviews

*Fallout: An American Nuclear Tragedy*, by P.L. Fradkin, University of Arizona Press, Tucson, AR, ISBN 0-8165-1086-5, 300 pages, 1989, \$14.95 (paperback) or \$24.95 (cloth).

This is a most unusual and disquieting volume. It documents the many human aspects which resulted from actions and cover-up of information which followed the nuclear devices atmospheric tests in Nevada during the 1950's and 1960's. Unfortunately, significant amounts of radioactive fallout (containing such isotopes as strontium-90, iodine-131, and cesium-137) contaminated major areas, not just in Nevada, Utah and Arizona, but further east and south. This reviewer was one of many who sampled and counted the air and water in the upper New York State area, and found ten to twenty times background radiation in many test fallouts during the test period.

This volume is written in the style of a novel, but is documented with 54 pages of scientific references. Beginning with a test called "Dirty Harry" (due to its high fallout), it follows both the operational and academic aspects of the test series. The effect on the general population, especially in the downwind areas, is noted in detail, and the inadequate precautions which Fradkin documents during and after each test is given much space. The diseases, including cancer, which may have resulted eventually lead to a trial called "*Irene H. Allen and others vs. The United States of America*" for tort damages to Ms. Allen and thirteen others. After three years in pretrial, the trial began in Salt Lake City on September 14, 1982, with plaintiffs who claimed disease (or death) from the fallout effects. After two months, ten of the plaintiffs were tentatively awarded damages; fourteen others were denied due to proof of causation being inadequate. Appeals followed, but the issue was closed when the Supreme Court refused to hear an appeal. The government, in essence, had no further liability for diseases and damages from the fallout. Sovereign immunity had prevailed.

HOWARD H. FAWCETT

*Engineering Safety Assessment - An Introduction*, by J.R. Thomson, John Wiley & Sons, Inc., New York, NY, 1987, ISBN 0-471-20712-4, 221 pages, \$33.95.

The author states his intention as having the book introduce the subject of safety assessment in plants for seniors or graduate students in chemical, mechanical and nuclear engineering, as well as practicing engineers and scientists. This may be too broad an objective for the typical curricula in the United States. In particular, the subject matter of Chapter 4, as presented, is too ele-

mentary for mechanical engineers but not thorough enough for chemical engineers. Some of the material in Chapter 5 is too elementary for nuclear and chemical engineers, but not detailed enough for mechanical engineers. The reviews of probability in Chapter 2 and system reliability in Chapter 3 are well done and form the basis for meeting the author's intent.

Chapter 5 classifies accidents by types, discusses some historical examples of each type and suggests means of calculating accident consequences. While the level of treatment may not be appropriate for the various audiences, the author has selected those types that might cause harm to the public and thus provides the basis of a good introductory text. Reference should be made to some of the modelling work done in recent years in dispersion of toxic gases and radioactivity. The subject matter of Chapter 6 (probabilistic risk assessment) could be expanded with examples drawn from the different disciplines.

On balance, the author has achieved a good starting point. Since the book is in paperback, it might be appropriate to repackage it into a two-volume set. The first volume might include the material of Chapters 2, 3, 5 and 6, while the second volume might be directed towards applications of the disciplines, including manufacturing and construction, as well as chemical, mechanical and nuclear.

LESLIE E. LAHTI

*First Aid Manual for Chemical Accidents*, M.J. Lefevre (revised by S.A. Conibear) Van Nostrand Reinhold, 2nd edn., 1989, ISBN 0-442-20490-6, 261 pages, \$26.95 (paperback).

*First Aid Manual for Chemical Accidents* was written for first responders both medically trained and untrained. It was written for production workers in the factory, people in the production line and in the laboratory, people on farms or in forests who could suddenly be called up to render assistance to a victim of chemical poisoning. As encouraging as the foregoing statement is, drawn from the introduction to this book, I feel it is a little too optimistic to believe that the untrained responder could successfully pick up this book, locate the chemical of concern and find the right response action. It is just too much to ask for the untrained person. But it is not too much to ask of the trained emergency medical technician.

The book will provide a superb resource for the trained medical responder and probably should be in the library of every hazardous materials response unit, operated as they are normally by firemen who often are certified EMTs (emergency medical technicians). This is a very well conceived and well written book.

As a prelude to response, the authors have some GOLDEN RULES: