

sicians have very limited knowledge as to laboratory chemicals and proper treatment. It is noted that employees have access to their records at all times.

The 15 question T-F quiz, designed to be administered after the viewing of the tape, is good, but the questions could have been a little more thought provoking and soul-searching. For example, the question: 'What chemical or group of chemicals in your laboratory is most hazardous?' would have yielded some interesting data on the effectiveness of the program within the laboratory in question.

This reviewer questions whether the tape will inspire great interest in personal safety; only active and sincere participation and visibility by top management (not just a Chemical Hygiene Officer alone) will convince the average laboratory worker that the OSHA requirements are important. We hope that a more inspiring and informative tape and quiz will evolve; it is badly needed. Even highly trained 'scientists' may need additional training in their human chemical health and safety outlook; until recently it was given only lip service in many laboratories.

HOWARD H. FAWCETT

*Living with Radiation: the Risk, the Promise*, by H.N. Wagner Jr. and L.E. Ketchum, Johns Hopkins University Press, Baltimore, MD, 1989, ISBN 0-8013-3787-1, 193 pp., \$ 17.95.

This volume, carefully researched and referenced, would do much to reduce the fear of radiation if it were widely read. The authors comprise a medical doctor, Director of Divisions of Nuclear Medicine and Radiation Health Sciences at Hopkins, while his co-author is senior medical editor and writer at ProClinica, Inc. The work begins with an inspiring forward by Professor Glenn T. Seaborg, in which the professor puts the book in perspective, namely, that radiation, properly used and controlled, has already contributed greatly to human welfare, a fact that should not be overlooked by the masses who associate radiation only with fear.

In the prologue, aptly titled 'The politics of fear', the authors detail an interesting example of concerns, expressed by the case of the lawsuit in the small Malaysian village of Bukit Merah, where controversy over the proposed location of a disposal site for low-level radioactive waste could result in closing of the Asian Rare Earth Company's plant which extracts rare earths from the residues of tin mining from the world's largest known deposit of tin. Experts and legal students from around the world have differed in their evaluation of the relative hazard. Sixteen different rare earths, especially yttrium, are produced, and used in superconducting magnets which can operate at higher temperatures. In explaining the radioactive materials which are found in the waste,

the authors have reviewed the human understanding of radiation, starting with Becquerel, Roentgen and Curie.

In the next chapter 'Plowshares or swords', the background of the atomic bomb is explained in understandable language, leading up to the Manhattan Project which produced plutonium and uranium-235. After the three bombs were demonstrated, the surrender of Japan followed in short order. Attempts to secure true international control of atomic energy were, unfortunately, unsuccessful, and the atomic arms race continued until recent times. Meanwhile, the US Atomic Energy Act of 1946 encouraged both nuclear power plants and radionuclides including carbon-14, tritium, phosphorous-32, iodine-131 and technetium-99m, all important in biomedical research and health care, the application of which is discussed in the chapter on nuclear medicine.

In the chapter on 'Living with uncertainty', the fear which Three Mile Island and Chernobyl has implanted in many minds is analyzed, including the contamination of air and water, and the question of ultimate disposal of nuclear waste. On the plus side, the irradiation of food is gradually being accepted.

'The search for truth', which is the title of the final chapter, outlines risk perception and assessment where radiation is involved, and the difficulties in assigning standards for permissible limits of radiation to workers as well as the public which has been ongoing since 1928.

In the Epilogue, the hope is expressed that, through better understanding of both the biology and physics of the human brain, mankind will soon properly access the positive aspects of radiation as a source of good. The book is highly recommended as a first step in this direction.

HOWARD H. FAWCETT

*Chemical Protective Clothing Performance Index Book*, by Krister Forsberg and Lawrence H. Keith, Wiley, New York, NY, 1989, ISBN 0-471-51430-6, 308 pp., \$ 59.00.

Selection of the proper chemical protective clothing (CPC) by emergency response personnel and clean-up workers is of the utmost importance to worker safety at the scene of a hazardous materials release. The wide variety of suit manufacturers, suit materials and testing procedures, as well as the wide variety of products that may be encountered, all play major roles in the consideration of the correct CPC to be employed. Add to these factors the added stress of the emergency nature of the situation and you have the potential for a disaster with deadly consequences.

This book is designed to ease some of the burden on the health professional bridled with the CPC choice. The book discusses the results of testing over 200 chemical protective suits against 650 of the more commonly encountered