

policy aspects of the process and not to confuse the two areas when they should be separated; however, the reader should be aware that site-specific risk assessment almost always contains elements of both science and policy.

The book provides guidance on the mechanics of risk assessment preparation, illustrates these approaches with examples, and devotes a substantial amount of space to issues of uncertainty and the need to address this uncertainty. The author writes that the actual risk (i.e., the right answer) may never be known; however, an answer can be obtained if the risk assessor employs reason and common sense.

BETH LADD
CURTIS C. TRAVIS

Risk is a Construct: Perceptions of Risk Perception, edited by Bayerische Rück, from the series *Society and Uncertainty*, Knesebeck GmbH&Co., Verlags KG, Munich, 1993, 337 pages, ISBN 3-926901-65-9

It is widely appreciated that risk is perceived differently by different people. The civil engineer perceives risks much differently than the truck driver; the construction worker differently than the neurosurgeon. The subject text is an excellent and provocative collection of articles that brings together different perspectives of perception represented by various disciplines. A wide range of experts (i.e., sociologists, psychologists, economists, safety engineers, and philosophers) share their views on the origin, history, and evolution of risk perception. In addition, the authors are from German-language areas as well as the English-speaking world thereby making the discussion of risk perception more tangible to a wider public.

The definition and perception of risk is as varied and diverse as are those who try to define and perceive it:

“... risk is all in the mind. That is to say, risk is (also) a notion of observation, and not just an object to be observed. As a notion of observation, it is a kind of lens ... What we see as a risk is not absolute reality, but instead depends on the *kind* of lens and the *way* in which we look through it.”

Indeed, it is obvious that different disciplines use *different kinds* of lenses, and so they may perceive things differently even when considering the *same* topic.

According to the authors, there is no uniform scientific concept of risk. An individual's subjective perceptions shape his view or opinion of reality; therefore, different people will perceive the same risk in different ways: “risk is a construct”. For every different person, there is a different perception of risk. Risk, in addition, is not just a product of individual existence but also a result of social and cultural factors. Individuals interact with and adopt opinions and experiences of others and subsequently draw conclusions based on these social interactions. With the help of mass media conduits, the public's idea of what is detrimental or useful can be changed by protest and information campaigns.

The phenomenon of risk perception is a complex issue; the present book attempts to bring together different perspectives of risk and to offer the reader aids to restructuring and assessing the vast and loosely defined field of 'risk perception'. The authors have also attempted to present the topic of international risk perception in a unique, interesting fashion; we highly recommend this informative, well-written, and enlightening text.

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In Situ Thermal Technologies for Site Remediation, by Lawrence A. Smith and Robert E. Hinchee, Battelle Memorial Institute, 209 pages, ISBN 0-87371-604-3

This short and clearly written book provides an overview of various thermal technologies available for in situ soil remediation. In situ soil heating can be conducted in a variety of different ways (steam injection, radio frequency, joule resistance, surface modifications, and other miscellaneous technologies), and each method is discussed fully in subsequent chapters in the text.

The authors, through use of definitions and comparisons, define and describe the various uses of in situ thermal technologies. The book discusses soil temperature and heat transfer mechanisms, temperature effects on contaminant removal, and temperature effects on mass transport in soils. In addition, the book gives a general introduction to the factors that influence the performance of in situ soil heating systems, summarizes literature on the subject, and provides a basis for planning data-gathering activities to determine the applicability and selection of a soil-specific heating technology. Through use of equations and definitive graphics, the concept of in situ thermal technologies is well-defined and easily grasped.

We believe this to be a well-written, informative text and recommend it to those interested in learning more about thermal remediation techniques.

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Quality Management of Safety and Risk Analysis, by J. Suokas and V. Rouhiainen, Elsevier, Amsterdam, 1993, 296 pages, price US\$ 168.50/Dfl. 295, ISBN 0-444-89864-6

The release of methyl isocyanate at Bhopal, India, over ten years ago spurred chemical industry interest in safety analysis and risk assessment. Since then, the use of technology to evaluate the safety of chemical plants has grown rapidly. But this increase in use has its own danger – varied quality of the analyses. Consequently, Soukas and Rouhiainen edited this multi-authored (although they really wrote over one-half of it themselves) book to give the basis for a systematic quality management