To assist engineers in complying with these requirements, the book has the following chapters:

- Pre-design requirements
- Design requirements
- Construction requirements
- Operation, maintenance, and monitoring
- Contingency planning
- Closure and post-closure care

An excellent (extensive) bibliography is provided.

GARY F. BENNETT

Organization for Hazardous Materials Emergencies: (1) Hazard Analysis, (2) The Emergency Plan, and (3) Exercises, Three videotapes: 28, 22 and 29 minutes long, respectively; Emergency Film Group, Plymouth, MA, 1992, VHS; $265/tape; $645/set of three tapes.

Title III of SARA (the Superfund Amendments and Reauthorization Act) passed by the U.S. Congress in 1986 requires planning and training for hazardous materials emergencies. Guided by a State Emergency Response Committee, planning is undertaken at the local level by Local Emergency Planning Committees (LEPC). In the state of Ohio, this local planning occurs at the County level — and this reviewer co-chairs his county LEPC. This excellent set of videotapes, *Organization for Hazardous Materials Emergencies*, is designed to assist the LEPCs and the chemical plants in their communities in meeting the requests of SARA. My impression is that the tapes do that very well, although they describe, in my opinion, a somewhat idealistic process, beginning with the first tape, *Hazard Analysis*. In this tape, the commentator explains what Hazard Analysis is and how to conduct one. The commentator uses case studies to teach hazard identification vulnerability analysis and probability analysis, stressing the difference between hazard and risk. As reading (supplemental) material the tape is accompanied by FEMA/DOT/U.S. EPA's book, *Handbook of Chemical Analyses Procedures*. The goal is for community planners to identify the hazard potential of chemical/industries.

Part two, *The Emergency Plan*, outlines the responsibility of companies, response personnel, and community groups within the framework of the emergency plan. This videotape outlines five steps: (1) reviewing existing plans, (2) conducting hazards analysis, (3) assessing response capabilities, (4) developing the plan, and (5) testing, revising, and monitoring the plan. The tape is accompanied by the National Response Team's *Hazardous Materials Emergency Plan Guide*.

The final (and for me the most useful tape, probably because I am so devoid of experience in that area) is entitled *Exercises*. It is designed to help communities and industries carry out comprehensive exercise programs to test and evaluate

the plan. To me, this is the key to the whole emergency planning process. How to design tabletop, functional and field exercises is discussed. Covered too, are the tasks of writing the emergency test scenario. The control plan, dealing with the media and the neighborhood, assessing the effectiveness of the team, finding support from governments and private agencies and followup activities are all thoroughly discussed. The tape is accompanied by two federally written publications:

- *Developing a Hazardous Materials Exercise Program*, put out by the Material Response Team
- *Hazardous Material Exercise Evaluation Methodology Manual*, put out by FEMA.

I strongly recommend the tape to all those involved in community emergency planning. One may not (probably will not) follow all their suggestions, but one cannot avoid being helped by them. They neatly review the process of emergency planning and gives many helpful tips to accomplish it.

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Mobility and Degradation of Organic Contaminants in Subsurface Environments, by Warren J. Lyman, Patrick J. Reidy, and Benjamin Levy, C.K. Smoley, Inc., Lewis Publishers, 121 South Main Street, Chelsea, MI 48118, 1992, ISBN 0-87371-800-3, 367 pp., plus index, $59.95.

This book provides a relatively complete summary of the current understanding of how organic contaminants move and transform in the environment. The book is an outgrowth of work by Camp Dresser & McKee, Inc. performed under a U.S. Environmental Protection Agency contract focussed on control of leakage from underground storage tanks (USTs). As such, it focusses on petroleum products with data and examples restricted to gasoline and constituent chemicals found in gasoline. However, the phenomena described and the equations provided for calculating fate and transport can be applied to most low density organic contaminants given the required input data. The book begins with a description of the thirteen different locations or states in which a low density organic contaminant can be found in the subsurface environment: (1) vapor within unsaturated zone soil gas; (2) liquid film on "water-dry" soil particles; (3) dissolved chemical in the water film around soil particles in the unsaturated zone; (4) chemical sorbed onto "water-wet" solids (saturated or unsaturated zone); (5) liquid between particles in the saturated zone; (6) liquid between particles in the unsaturated zone; (7) liquid floating on the water table; (8) dissolved chemical in saturated zone ground-water; (9) chemical adsorbed onto colloidal particles in soil water (saturated and unsaturated zone); (10) chemical diffused into solid particles (either zone); (11) chemical sorbed onto microbiota (either zone); (12) dissolved chemical in