INTRODUCTION

There are major problems in continuing with our current methods of environmental management, independent site inspections, and waste-storage-area clean-ups. The engineering and legal professions as instructed by governmental regulators focus on one site at a time, actions are taken, and incremental information is uncovered and kept in public agency records. In this way, the process of environmental protection from accidental chemical releases and contaminated waste sites has become a quiet, private partnership between the government and industrial corporations. The process is almost a clandestine activity, segmented and disjointed, resulting in a sharp focus on individual site clean-ups without attempting to expand that focus to the overall planning for waste site locations.

While this book examines the records of contaminated sites and the current incremental regulatory and engineering approaches, its basic emphasis is on the serious impacts of petrochemical industrial facilities, waste storage sites, surrounding land use, health safety, and methods of planning to mitigate environmental dangers. Recommendations for cities and communities are developed for existing and newly developing areas. To reach these conclusions, case studies of Texas and Louisiana Gulf Coast waste storage sites provide important lessons applicable to other places. Professional planning principles, such as the comprehensive analysis of diverse factors, underlie the basic approach presented.

The environmental engineer and manager are already familiar with the alternative approach, in which sites are remediated independently and after the fact, rather than in relation to one another, or planned in advance. As a result of this fragmentation, clean-ups are moving at a snail's pace and the larger picture has been lost, according to the information which follows. Since almost all of the voluminous site data have been buried in agency files and are not readily accessible, I am hoping, with an analysis of those site records, to provide business and industry, public policy makers, and legislators with readable summaries. Environmental and city planners can effectively use this information about sites and areawide

conditions and apply the examples, approaches, methods, and recommendations to make optimum industrial land-use decisions for the health, safety, and welfare of their constituents.

Development control laws, such as comprehensive and land-use plans, zoning, and subdivision ordinances have not been effective in the two states in safeguarding public health. People and governments cannot continue to consider industries as always benevolent and an asset to their urban economy. There may be a wrongful politics of accommodation, treating industrial land uses as equal in consideration to residential, commercial, and other districts.

Issues of scientific uncertainty and conflict confuse and confound the planning process. If they don't accept industrial facilities' proposals, local governments can be challenged about scientific innovations proposed by industry. Rather than face the complexities of analyzing scientific studies and their acceptability or embrace the technologies of pollution prevention and the promises of waste minimization, public officials and planners have done without the information from which to *firmly* restrict or deny industrial site locations. This book provides a basis for making those kinds of decisions.

In order to plan effectively for existing cities and regions and their future land development, a different, coordinated approach to environmental analysis is essential. The methods of comprehensive planning, as presented here, can be applied effectively. This research weaves together the many factors affecting public health and makes the connection to land use.

The larger-scale considerations which interact with waste sites are: climate, topography, geology, population, economic factors, and land-use patterns. Regularly, analysts sharply focus on one or a few of these larger-scale considerations and miss some of the others. At times, the focused method works for the task at hand and best balances a project's resources, but the approach may produce a number of unanswered questions or lead to the wrong conclusions. By contrasting the larger-scale information with the small-scale site data, the goals of this book could be obtained successfully. The incremental information about the separate sites in the cases which follow was obtained from site files. Limitations of this research precluded the analysis of more sites, because of the vast quantities of files and large numbers of public agencies involved. Those specific waste sites on the Texas and Louisiana Gulf Coast which were selected have unusual site histories. In the process of collecting the data, many other site files were scanned, disclosing similar dangers and potential health threats. Those reviews reveal that countless sites

must have their own fascinating stories—some similar and some far worse. The following sites were analyzed in this study:

AMOCO Chocolate Bayou Plant, Brazoria County
AMOCO Texas City Plant, Galveston County
GAF Corporation Plant, Galveston County
Malone Company, Swan Lake, Galveston County
Monsanto Chocolate Bayou Plant, Brazoria County
Monsanto Texas City Plant, Galveston County
MOTCO, Inc., Galveston County
New Texas City Municipal Landfill, Galveston County
Old Texas City Municipal Landfill, Galveston County
Bailey Waste Disposal Site, Jefferson County
Triangle Chemical Company, Jefferson-Orange Counties
Browning Ferris Industries (BFI), Jefferson County
Maintech International, Jefferson County
Union Carbide Chemical Company, Jefferson County
Petro-Processors, Inc. (PPI), East Baton Rouge Parish
Ewell Property, Devil's Swamp, East Baton Rouge Parish
Browning Ferris Industries (BFI), East Baton Rouge Parish
Kansas City Southern Railroad, East Baton Rouge Parish

Most of the information about these and the other sites which are more briefly summarized has been compiled from file information at public agencies in the two states. Area information has been compiled from primary and secondary sources: interviews, library materials, media reports, academic studies, books, monitoring station data, and chemical analyses. As files from the public agencies were copied, data inventories were compiled for each site in separate volumes. These separate site data inventories became the basis for the site summaries presented. Thirty-five data inventory volumes, about five hundred pages each, were condensed into twelve volumes as "data summaries" for the sites. In order to make the information readable and understandable, the more than twenty thousand pages of charts, tables, printouts, graphs, etc., have been summarized into new tables, maps, and diagrams. Many have been omitted intentionally, since the information was deemed to be very technical or merely supportive of other material presented.

The book provides in its first section an overview of industrial development, Gulf Coast conditions, and the petrochemical industry. By combining this information, the stage is set for the in-depth exploration of waste site conditions presented in Chapters 2–7. Chapter 8 links waste sites to public health concerns by presenting

data from both states. Chapter 9 reviews environmental regulations such as Superfund, RCRA, and Texas and Louisiana environmental regulations to give background into the legal bases for environmental regulation and the legally mandated control, inspection, and remediation methods. Finally, Chapter 10 presents the important conclusions of this study, in which city and environmental planning are demonstrated to be the missing ingredients needed for environmental protection and the safety and public health of all residents. These conclusions and the plea for planning and local governmental land-use regulation could only be supported by such an analysis of sites and this comprehensive assessment of area conditions.

DANGER ALL AROUND