

Introduction to Industrial Waste Treatment

Serious treatment of industrial wastes did not really begin in the United States until the 1930s—and then only in a few industries with easy and obvious remedies—such as screening feathers from poultry processing effluents and even the lagooning of certain papermill wastes. The extent of treatment grew during the next 70 years of the twentieth century. It broadened during this period to include many types of industries. The complexity of treatment also increased as environmental restrictions became greater. Growth was enhanced also by progress in industrial waste treatment research findings.

The goal of effective industrial waste treatment is directed towards the removal of all contaminants (see complete definition in Nemerow and Agardy 1998) that adversely impact the water as well as air and land environments. One should keep this goal in mind at all times regardless of the presence or absence of governmental or economic constraints.

Waste treatment findings and practices are presented largely in Part A of this book. Many of these carry over into the twenty-first century. I do not intend to maintain that the state of the art of waste treatment can be clearly divided into and by the two centuries. In fact, one can discover twentieth-century industries that were practicing the twenty-first century advanced treatment methods. Treatment decisions have always been affected by regulatory and economic constraints regardless of scientific knowledge. And they probably always will until we are able to include the costs of these constraints in industrial production decisions.

Twenty-first century thinking, if not actual practice, is presented in Part B. Keeping in mind that many older techniques are still being carried over into this century. In addition, as expected, the twenty-first century environmental engineer is benefiting from the massive industrial waste research and treatments utilized during the twentieth century. But I am certain that the reader realizes that the resources of our receiving environments (air, water, and land) are finite. And as such these resources must be protected with greater intensity and utilized much more economically than previously.

With the above in mind, I encourage the reader—student, consulting engineer, governmental regulatory agent, industrial producer, municipal planner, scientific investigator, or just plain resource-minded environmentalist—to review and absorb as much of the knowledge presented in Part A (supplemented with material in Nemerow and Agardy 1998) and proceed to utilize it in studying and evaluating the innovative twenty-first century ideals of Part B.

Reference

Nemerow, N. L., F. J. Agardy. 1998. *Strategies of Industrial and Hazardous Waste Management*. New York: John Wiley Publishing Company.