

HAZARDS AND THEIR CONTROL

THIS SECTION of the book, the largest, deals with hazards and their control. When seeking to achieve safety, a major role for engineers is prevention. Prevention requires that engineers be able to recognize hazards, to know available controls, and to apply them. All too often, engineers do not recognize hazards and factors that contribute to incidents. Therefore, appropriate controls that are available to engineers are not applied at all or as fully as needed.

Sometimes engineers assume that when they apply their skills and knowledge to the best of their ability, things are safe enough. They assume that the products, equipment, workplaces, processes, and environments that they design, implement, and manage are safe. They see themselves as professionals, people who know what they are doing. But incidents do happen, contributing factors are overlooked, errors are made, and things do go wrong. Too often engineers do not have the knowledge and skill to prevent such problems. They do not make things as safe as they could be, as safe as society expects, or as safe as the law requires.

The goal of this section is to develop the reader's general knowledge of hazard recognition and hazard control. Because of practical limits, this book cannot include every hazard or every control for each topic or application.

