

## VI. Maintenance of General Cleanliness of the Industrial Establishment

Housekeeping and plant cleanliness in their fullest sense imply not only the absence of clutter and debris in the working area and passageways, but also the maintenance of painted surfaces in a clean condition, the frequent removal of dust from lighting fixtures, and in general making the plant "a better place to work." The industrial plant that processes hazardous or potentially hazardous materials that cannot be prevented from escaping into the general atmosphere has a double responsibility to provide the utmost in housekeeping and plant cleanliness.

It is no longer sufficient to delegate responsibility for cleanliness of the plant and surroundings to a foreman or supervisor whose primary duties, interests, and training lie elsewhere. The complexity and cost of housekeeping machinery and supplies, the technical knowledge required for their proper and effective use, and the extensiveness of the workload make the establishment of a housekeeping department in large plants a virtual necessity. Working standards, schedules, and quality controls are also required in this routine plant operation. Additional evidence of the economic importance of this operation is the fact that fire insurance premiums are in part determined by the status of plant cleanliness.

## VII. The Sanitary Engineer in Industry

The environmental factors described in this chapter are inherent in varying degrees in every industrial establishment. Those plants whose products are intended for human food may be placed in a special category since they have a paramount responsibility to protect their product from contaminants that endanger the health of the consumer. Because of this responsibility the role the sanitary engineer and sanitarian have to fulfill in such industries should be obvious to all. It is the second category of industry—the industry whose products are not intended for human food—which only recently has learned to utilize the sanitary engineer effectively. The recognition by industry of the great need to conserve the nation's water resources through effective control and treatment of industrial wastes; the desire to provide production and management personnel with safe food and potable water at all times, and the need for maintaining a sanitary working environment to protect the employee from those diseases that are not directly of occupational origin can be combined in a valuable service to industry. Most generally, the sanitary engineer is employed by industry to apply his knowledge to the solution of problems of industrial water supply and its corollary, liquid waste disposal. However, his engineering and public health skills are indeed more widely applicable in such areas as solid wastes disposal, food sanitation, insect and rodent control, and plant maintenance. Although the sanitary engineer may not be directly associated with the occupational health section of the industry, the roles filled by him and the industrial hygienist are directed toward the same end. The parallel may be further drawn by pointing out that just as the industrial hygienist aims to recognize hazardous working conditions

in the design stage in order to eliminate them completely or make the application of control measures more effective, convenient, and economical, so the sanitary engineer in industry applies the same principle to the control of environmental factors other than those related to the occupation per se.

Many industries are too small to warrant the employment of a full-time sanitary engineer or sanitarian. The possibility of a number of industries co-operating in the provision of sanitary engineering services is worthy of consideration. In any event, state and local health department sanitary engineering personnel have a duty to co-operate with industry by providing such services as review of plans and general consultation on environmental health problems within industry. This may be accomplished either through the industrial hygiene division or, if none exists, directly with the sanitary engineering division of the health department.

## General References

- Babbitt, H. E., *Plumbing*. 2nd ed., McGraw-Hill, New York, 1950.
- Bessilievre, E. B., *Industrial Waste Treatment*. McGraw-Hill, New York, 1952.
- Cash, E. E., and Stott, R. G., Change houses in the Lake Superior District, *U. S. Bur. Mines Inform. Circ.* 7489, 1949.
- Dick, G. M., *Food Poisoning*. University of Chicago Press, Chicago, 1949.
- Dayberry, E. B., *Food Poisoning*. Leonard Hill Ltd., London, 1950.
- Dick, G. M., and Geyer, J. C., *Water Supply and Waste-Water Disposal*. Wiley, New York, 1954.
- Goudy, R. F., Practical aspects of cross connections, interconnections and backflow, *J. Am. Water Works Assoc.*, 33, 391 (1941).
- Hamington, D., and East, J. H., Jr., Wash-and change houses at American mines, *U. S. Bur. Mines Inform. Circ.* 7423, 1947.
- Rhodes, E. B., *Public Health Engineering*. 2 vols. Wiley, New York, 1948-50.
- Ruddis, W., ed., *Industrial Wastes; Their Disposal and Treatment* (ACS Monograph Series). Reinhold Publishing, New York, 1953.
- Tanner, F. W., and Tanner, L. M. P., *Food-Borne Infections and Intoxications*. 2nd ed., The Garrard Press, Champaign, Ill., 1953.