

In the design of controls, special consideration is given to range, strength, speed, and accuracy of body movements in relation to the design of controls including location, shape, size, direction of movement, and gear ratio. The advantages of standardization of equipment are noted. Probably no better illustration could be given of the way in which the designer, the safety engineer, and the biological scientist should cooperate in the interest of safety than in the field of display and control problems. The physical variables of the environment are then considered briefly insofar as they relate specifically to the design of the working area.

Attributing accidents to human factors has sometimes been overemphasized; often the underlying cause of the accident can be traced to poor or inadequate design of equipment. Under such conditions, the wider use of biological and psychological data in the design of machines and working areas can contribute substantially to accident prevention. To achieve this, however, effective collaboration is necessary between the engineering and biological personnel.

CHAPTER V

Industrial Sanitation

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Industrial sanitation is essentially a specialized application of community environmental health services. Within the purview of industrial sanitation are the principles involved in controlling the spread of infection or other insults to the health of the employee that are not inherent in the manufacturing process per se. For example, the industrial establishment that provides feeding facilities invites the disaster of food-borne infections and food poisoning if it fails to supply its employees with the utmost in sanitary food-handling facilities and practices. Even though the industry may contract for these services with an industrial catering concern, it does not absolve itself of this responsibility.

The areas that may be considered the province of industrial sanitation are: (1) provision of a safe, potable, and adequate water supply; (2) collection and disposal of liquid and solid wastes; (3) assurance of a safe food supply; (4) control and elimination of insects and rodents, especially those known to be vectors of disease; (5) provision of adequate sanitary facilities and other personal services; (6) maintenance of general cleanliness of the industrial establishment.

I. Provision of a Safe, Potable, and Adequate Water Supply

A. SOURCE AND REGULATORY CONTROL OF THE WATER SUPPLY

In the case of very large industries, the facilities for providing a safe and adequate water supply rival in size and complexity those of many a community. When water is supplied by the community, it is regulated as to safety and quality by the municipal or state authorities and, in the case of interstate commerce, by the Federal government. When no public supply is available at an economic cost, the industrial establishment must of necessity develop an adequate source of its own and usually it must treat the water at its own facilities to make it potable and safe. The control measures applicable to public supplies must be observed in the industrial supply. In most cases these are state regulations patterned after the United States Public Health Service *Manual of Recommended Water Sanitation Practice* and the *Public Health Service Drinking Water Standards, 1946*.² These

Manual of Recommended Water Sanitation Practice, U. S. Pub. Health Bull. No. 296,

1946. U. S. Public Health Service Drinking Water Standard, 1946, Reprint No. 2697.