Learning Objectives

Upon completion of this unit, students should be able to:

1. Describe the various aspects and components of electrical systems; and cite important considerations regarding systems design and operating standards.
2. Discuss electrical system components: fuses and circuit breakers; distribution panels and wiring; electric motors, controls and drive elements; electronic and electrical maintenance equipment.
3. Discuss the billing methods of electric utilities and describe how to read electric utility meter. State why electric bills should be checked for errors, summarize issues involved in deciding on a tariff for electric service. Discuss electric utility deregulation.
4. Describe the basic elements of human comfort and how HVAC systems affect this comfort.
5. Identify the system types and maintenance needs of HVAC systems for all building areas on a hospitality property.

Unit Summary

This unit consists of Chapters 6 and 7. In this unit you continue the study of facility systems. Specifically, you will explore the electrical systems and heating, ventilating, and air conditioning (HVAC) systems. Because electricity generally powers all the systems, it will be considered first.

Electricity is the most costly and widely used energy source within the hospitality industry. A high-quality, reliable source of electrical energy is required for the operation of equipment ranging from lights, to computers, to kitchen equipment and to the air conditioning system. With the electric bill accounting for potentially as much as 90 percent of the property's utility costs, it is clear that controlling utility costs involves controlling electricity consumption. Correct design, proper operation, and attention to the maintenance of electrical systems all contribute to a safe and comfortable environment for both guests and employees. Reliable electrical supplies are crucial to daily operations.

Also in this unit, you will review four major areas of responsibility of facility management—safety and security, legal and regulatory compliance, service, and cost control. Proper selection, operation, and maintenance of HVAC equipment are a major objective in providing a comfortable and safe environment for guests and employees. The operational costs of HVAC equipment can also be substantial, meaning that cost control of operation can make significant bottom-line contributions. Legal and regulatory compliance requires attention to the variety of regulations that cover HVAC equipment and its operation. Maintaining proper indoor conditions also helps preserve the physical condition of the building and its contents, thus protecting the interests of the owner and operator.