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The Changing Structure of the Electric Power Industry 2000: An Update

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1. Introduction

Electric power generation in the United States is changing from a regulated industry to a competitive industry. Where power generation was once dominated by vertically integrated investor-owned utilities (IOUs) that owned most of the generation capacity, transmission, and distribution facilities, the electric power industry now has many new companies that produce and market wholesale and retail electric power. These new companies are in direct competition with the traditional electric utilities. Today, vertically integrated IOUs still produce most of the country's electrical power, but that is changing.

The long-standing traditional structure of the industry was based, in part, on the economic theory that electric power production and delivery were natural monopolies, and that large centralized power plants were the most efficient and inexpensive means for producing electric power and delivering it to customers. Large power generating plants, integrated with transmission and distribution systems, achieved economies of scale and consequently lower operating costs than relatively smaller plants could realize. Because of the monopoly structure, Federal and State government regulations were developed to control operating procedures, prices, and entry to the industry in order to protect consumers from potential monopolistic abuses.

Several factors have caused this structure to shift to a more competitive marketplace. First, technological advances have altered the economics of power production. For example, new gas-fired combined cycle power plants are more efficient and less costly than older coal-fired power plants. Also, technological advances in electricity transmission equipment have made possible the economic transmission of power over long distances so that customers can now be more selective in choosing an electricity supplier. Second, between 1975 and 1985, residential electricity prices and industrial electricity prices rose 13 percent and 28 percent in real terms, respectively. These rate increases, caused primarily by increases in utility construction and fuel costs, caused Government officials to call into question the existing regulatory environment. Third, the effects of the Public Utilities Regulatory Policies Act of 1978, which encouraged the development of nonutility power producers that used renewable energy to generate power, demonstrated that traditional vertically integrated electric utilities were not the only source of reliable power.

Competition in wholesale power sales received a boost from the Energy Policy Act of 1992 (EPACT), which expanded the Federal Energy Regulatory Commission's (FERC's) authority to order vertically integrated IOUs to allow nonutility power producers access to the transmission grid to sell power in an open market. FERC's authority to order access was implemented on a case-by-case basis and proved to be slow and cumbersome. To remedy that, FERC issued Order 888 requiring all vertically integrated IOUs to file an open access transmission tariff that would provide universal access to the transmission grid to all qualified users. Order 888 was an important stimulus in the development and strengthening of competitive wholesale power markets, but discriminatory practices regarding access to the transmission grid still remained, and a more effective effort was needed. In December 1999, FERC issued Order 2000 calling for the creation of regional transmission organizations (RTOs), independent entities that will control and operate the transmission grid free of any discriminatory practices. Electric utilities are required to submit proposals to form RTOs from October 2000 through January 2001.

In addition to wholesale competition, retail competition has started in many States. For the first time in the history of the industry, retail customers in some States have been given a choice of electricity suppliers. As of July 1, 2000, 24 States and the District of Columbia had passed laws or regulatory orders to implement retail competition, and more are expected to follow. The introduction of wholesale and retail competition to the electric power industry has produced and will continue to produce significant changes to the industry. These changes are referred to collectively as restructuring.

The purpose of this report is twofold. Part I (Chapters 2 through 4) can be used as a basic reference document for information about the traditional electric power industry before restructuring started, while Part II (Chapters 5 through 9) describes the major causes and events that are changing the industry's structure from a totally regulated monopoly to one where both competition and

regulation coexist. Chapter 2 presents an overview of the industry's history from inception to approximately when deregulation and restructuring started. Chapter 3 explains the infrastructure of the industry, detailing its generating, transmitting, and distributing components. It also presents industry-wide statistics depicting how restructuring has changed the composition of the industry. For example, it illustrates the growing importance of nonutility power producers in meeting the Nation's electric power demands. Chapter 4 presents a summary of 21 Federal acts that have directly or indirectly affected the regulation, structure, and operating procedures of the electric power industry since its inception.

Chapter 5 presents a discussion of the causes leading to Federal and State deregulation of power generation and subsequently to restructuring of the electric power industry. Following this, Chapter 6 discusses numerous Federal bills, either initiated in Congress or by the Administration, designed to promote, assign responsibility, or provide guidance to continued deregulation of the industry. This chapter also discusses the debate to repeal the Public Utility Holding Company Act of 1935, and the Public Utility Regulatory Policies Act of 1978, both of which brought significant changes to the industry, but are now considered by some to be obsolete in a competitive electricity industry.

Continuing a discussion at the Federal level, Chapter 7 presents FERC's role in promoting competitive wholesale electric power markets and restructuring the management, operation, and possibly the ownership of the Nation's high voltage bulk power transmission system. Although the bulk power transmission system does not receive wide public attention, it plays a key role in the movement to a competitive industry.

Chapter 8 discusses the roles of individual States in promoting competition and restructuring at the retail level. A summary of the status of each State's restructuring activities is presented along with discussions addressing retail competition in five States. A discussion of the recent problems in the California market is included in this chapter.

Chapter 9 examines IOUs—the largest component of the electric industry in terms of power generation, value of assets, and total revenues—and how they are coping with and preparing for competition through mergers, acquisitions, and power plant divestitures. In many ways these corporate activities, which transfer and/or consolidate ownership and control of the Nation's electric power assets, represent the core of industry restructuring. Readers will also find a discussion of the role of the Federal Government in approving mergers and acquisitions, which has become more important as the number of mergers increases.