

Overview

Competition has been proposed as a mechanism to reduce costs and improve decisionmaking in the heavily regulated electric power industry. Some elements of competition are already appearing. However, the technical characteristics of electric power systems, and deficiencies in data and analysis of the requirements for planning and operation under competition, result in uncertainty over the costs and benefits. In particular, changes affecting the transmission system could cause major reliability and cost problems unless introduced carefully.

Concerns that the bulk power system (generation and transmission) is inherently incompatible with competition do not appear to be well founded. The system can be made to work under any of the institutional/regulatory arrangements considered in this study. Problems and issues will arise with widespread competition, but they will be much less technical than political and institutional.

The greatest challenge will be to maintain the coordination of the bulk power system as an integrated whole when many different entities are involved. At present utilities (or groups of cooperating utilities) control the output of all their generating plants to ensure reliability and lowest possible cost for the constantly changing demand, considering the availability of transmission capacity. If competition is to be successful, it must find a way to provide the same services that utilities now perform internally. The solution will depend more on measures to define responsibilities and ensure adequate information sharing than on hardware modifications.

competition is not a single concept. The term encompasses a variety of proposed changes. The major potential mechanisms are increasing competition among generating companies for the sale of their power, and expanding access to the transmission system so that this power can be wheeled to different customers. The various proposals differ *largely in the rapidity of introduction and eventual extent of change in these two themes.*

The costs, benefits, and impacts of competition are very uncertain. Actual experience is limited, and little analysis has been performed. The benefits from competition are speculative and difficult to quantify, particularly from a national perspective. Rapid change will entail the greatest risks, and special attention will have to be paid to developing appropriate institutional safeguards. Key data, such as the amount of wheeling going on now and the amount of nonutility generation, is not being collected in useful form.

If implemented unwisely, competition easily could result in higher costs and lower reliability because crucial functions such as economic dispatch would not work as effectively. Success is likely to depend on how competition is implemented, both for the Nation as a whole and for individual transactions.

Some elements of competition are already being implemented. Several States are initiating bidding procedures to allow nonutility companies to compete to supply new generating needs at the lowest possible cost. Bulk power sales between utilities have been substantial for many years. Interest in such sales among utilities, independent generators, and consumers is increasing.

The environmental impacts of competitive generation will depend on how it is implemented. Competitive generators might select different fuels and technologies than would utilities, which would result in different environmental impacts, but this cannot be predicted confidently. In addition, there has been increasing concern over the health impacts of the electric and magnetic fields associated with transmission lines. These impacts cannot be confined at this time, but neither have they been disproved.

If policymakers choose to encourage competition, modifications to the Federal Power Act, the Public Utility Regulatory Policies Act and the Public Utilities Holding Company Act could remove disincentives to bulk power competition and increased wheeling. In addition, several technical and institutional changes could help ensure that the electric power system operates reliably and economically. Many services that utilities now provide internally will have to be arranged by contract, which will require precise definition and evaluation. Detailed data collection and analysis could identify risks to be avoided as competition is implemented. State and Federal regulatory bodies may require increased expertise to handle complex issues.