

VIRGINIA STATE CORPORATION COMMISSION

STAFF INVESTIGATION ON THE RESTRUCTURING OF THE ELECTRIC INDUSTRY

EXECUTIVE SUMMARY

The current debate over restructuring of the electric utility industry in the United States may have broad implications for Virginia consumers, both large and small. Proponents of change maintain that benefits will accrue to customers by subjecting the generation of electricity to market forces instead of regulation, while others argue that utilities will likely retain their monopoly power and that the enormous complexities and complications intrinsic to the industry will require continued regulation to protect the public interest. In this Staff Report, we attempt to address whether rapid restructuring could provide significant opportunities for Virginia or whether guarded modification to the present industry structure and regulatory framework would be a preferable course. Furthermore, we have attempted to evaluate issues in the context of the current momentum for change prevalent at the federal level and in a number of other states, in order to be in a better position to respond to change should it be compelled by industry developments or government fiat.

The purposes of this Report are to define the issues, identify and to analyze their potential effects upon the Commonwealth and its citizens, and to provide the Commission and the General Assembly with a foundation for addressing these important topics in the months and years to come. We recognize that reliable and economic electric service is critical to the well-being of all of Virginia's citizens and businesses and that fundamental change, if warranted, must be undertaken in a measured and responsible manner. We stress that this Report is only a beginning and that further evaluation and study of a myriad of issues will be necessary for the development of effective policy as the debate goes forward.

We begin with some limited background on the history of the electric utility industry -- why it is regulated, events that have shaped it, the current method of regulation and a comparison to other industries which have been restructured to varying degrees. We conclude that, while changes in other industries provide some guidance, the different characteristics of the electricity industry -- such as the vertically-integrated nature of utility service, the interplay between generation and transmission and the inability to store electricity effectively limit the usefulness of comparisons to other industries.

Reasons for the interest in restructuring are also explored. The potential benefits from the use of competitive forces are discussed in some detail, including improvements in economic efficiency, allocation of resources, and customer choice; several caveats regarding the development of competition are examined. Particular concern is expressed about the retention of market power by utilities in a deregulated market. An examination of selected foreign electric markets and their associated restructuring developments in recent years is also included. We conclude that there are some lessons to learn from further study, but that, again, there are significant differences between foreign markets and the U.S. situation which may limit the value of their experiences to us. One pertinent lesson is that a rushed or poorly managed transition will likely have negative consequences.

Other stimuli for restructuring include advances in technology which are producing lower-cost, more flexible options for generation. Also, excess base-load capacity exists across the country which could produce lower, but possibly unsustainable, prices for purchasers of electricity. The influence of reserve margins and the associated impact on price and reliability of service in a restructured industry may have varying impacts on different customer groups.

Variations in electric rates among jurisdictions, and, in particular high electric rates in certain

jurisdictions, may be the principal impetus behind the interest in restructuring the industry and introducing market forces. While U.S. prices on average compare favorably with those of other industrialized nations, high prices do exist; California, New York, and certain New England states have rates far above the national average and far higher than Virginia. Indeed, Virginia, by most measures, clearly falls within the category of lower-cost states. Sharp differences within regions also exist. Even within a single jurisdiction, including Virginia, there can be significant differences in rates among utilities. Generally, the highest-cost states are most aggressively pursuing restructuring and have been among the first to implement retail wheeling experiments and establish timetables for full industry restructuring and introduction of competition.

Recent actions by the Federal Energy Regulatory Commission and proposed legislation in Congress are fostering change at the wholesale level. The impacts from these developments are being felt at the retail level as well. Certain federal actions and proposals may intrude into matters considered states' jurisdiction in favor of a federally-controlled industry framework.

The Report also includes a description of restructuring activities in other state jurisdictions, including retail wheeling experiments as well as broader restructuring plans with established timetables for implementation of customer choice, procedures for divestiture of generating assets, and policy determinations regarding stranded cost. Most of this activity is taking place in the highest-cost jurisdictions, while lower-cost states, including nearly all of those surrounding Virginia, are examining various aspects of the changing environment but generally not undertaking major initiatives.

Increased open access, a more active wholesale market, and the threat of retail competition are forcing utilities to cut costs in an unprecedented fashion. Utilities are responding to the possibility of full-scale competition in a variety of ways. Major workforce reductions and reengineering of operations have been undertaken by utilities across the country, including those serving Virginia. Companies are becoming more customer-oriented, with many developing energy services operations to provide customers with a broad range of services to increase business opportunities and enhance customer loyalty. An overview of Virginia's utilities is provided, along with information regarding their specific reengineering efforts, reserve margins, and other operational characteristics.

A review of the competitiveness of Virginia's utilities reveals that, in general, the major utilities operating in the Commonwealth are in relatively strong positions on both a national and regional basis. Relative strengths and weaknesses are identified for utilities and cooperatives, and again, on balance, Virginia utilities compare very well by most measures, though the ability to compete in the wholesale market and the potential exposure to loss of load varies considerably.

The Report includes an overview of the General Assembly's 1996 legislative activity germane to restructuring: Senate Joint Resolution 118 establishing a joint subcommittee to study restructuring and potential changes in the electric industry; the amendments to § 56-235.2 to authorize the Commission to approve special rates and contracts and to approve alternate forms of regulation for electric companies; and changes to statutes to authorize and quantify stranded cost recovery in certain circumstances. The possible effects of some of these changes are briefly described.

Existing competitive activity in Virginia is also examined. As a result of the Public Utility Regulatory Policies Act, non-utility generation has risen as a principal source of new generating capacity in Virginia (primarily on the Virginia Power system), signaling the emergence of the first major source of competition for construction and operation of power plants. While the Commission has been generally supportive of a balance between utility construction and purchases from non-utility generators, some contracts have proven to be high cost with potential stranded cost exposure for the utility. Other rate experiments which reflect responses to competitive forces include variable pricing, which provides

incentives to customers to curtail energy consumption during high-cost periods, and real-time pricing, where firm prices change hourly based on the utility's production costs. The Commission has also addressed the issue of construction of merchant plants (those built by non-utility entities to serve unspecified load) and we address the issue in our recommendations. Various competition-related activities of Virginia utilities in independent system operator plans, transmission alliances, power pool restructurings, customer choice proposals, and energy services are also reviewed in the Report.

The Report also examines in some detail the various models on which restructuring could be based, including regional power pools, ISOs, retail wheeling or combinations thereof. Resolution of issues on market power, stranded costs, separation of generation and transmission and the ability of customers to respond to changing market conditions is deemed critical to the ultimate success or failure of restructuring. Some pool concepts, including one in which generation-related costs are recovered through pool prices, could expose consumers of low-cost utilities to higher costs and higher-cost utilities to stranded costs. We express our belief that consumers who have historically supported low-cost generation through rates should continue to receive the benefits associated with these assets. POOLCO models have advantages and disadvantages, but some role for POOLCOs in a restructured industry seems likely. Some variation of an ISO will possibly be used for the functional separation of generation and transmission (deemed necessary to reduce market power), but such functional separation could create problems on siting and construction of transmission lines as well as on the coordination between generation and transmission. The interdependency of competitive tools with the operation and planning of a utility under the current model give rise to complexities and tradeoffs which the Staff Report states have not been adequately addressed and raise concerns about reliability and economic efficiency.

While recognizing some possible benefits, the concept of a retail wheeling model is also seen as posing challenges and raising unanswered questions. The ability of such a model to send accurate price signals to spur construction of new generating facilities on a timely basis is unclear, as is the ability of all customers to avail themselves of the opportunity to choose suppliers. Whether marketers will aggressively seek to serve small customers (particularly low-income, fixed-income or rural customers) is not clear, and such customers could be adversely affected if the traditional utility service obligation is reduced in favor of customer choice or is modified to the detriment of some customers. The Report concludes that major issues, including the rates, rules and conditions for retail wheeling, will have to be carefully developed if direct access is to be successful and equitable.

If a move to a competitive market is mandated, a central issue will be the treatment of stranded costs (the diminution in value of generation assets rendered uneconomic by a change from regulation to competition) and stranded benefits (increases in value over book cost). Estimates of stranded costs vary widely and are subject to uncertain assumptions which render current estimates speculative at best. In Virginia, costs associated with nuclear investments and purchased power contracts may be key elements to be resolved in addressing the stranded cost issue.

We analyze certain arguments for and against stranded cost recovery and conclude that the Commission and the General Assembly should maintain maximum flexibility and keep any recovery mechanism simple. We stress the difficulty in calculating stranded costs accurately and the uncertainty of whether, and to what extent, such recovery will be necessary in Virginia. The Commission should also consider whether interim steps may be appropriate to prepare for the possibility of formally addressing this issue in the future. As part of these efforts, utilities should be directed to submit detailed cost-of-service studies in order to provide cost data for unbundling of services, equitable allocations among rate schedules, and for the elimination of cross-subsidies.

Considerable attention in the Report is devoted to capacity optimization and future reserves. Expected regional electric generating capability is found to be low by historical standards, but may be adequate if

existing facilities are better utilized. However, uncertainty exists as to the adequacy of future generating resources, which will depend upon a variety of factors which cannot be fully evaluated at this time. Base-load capacity should be sufficient for the next decade, but the addition of units when these supplies are depleted remains unclear.

Other restructuring-related issues include municipalization, dispersed energy, and the provision of ancillary services in a competitive environment. Ancillary services and their critical role in reliability of service are discussed in detail.

The impact of restructuring and increased competition will likely mean changes in the risk profiles of utilities. If utilities are split along functional lines, the individual generation, transmission or distribution companies will likely have different risk profiles and, therefore, different capital costs. Cooperatives will also face changing risk assessments, and the cost of capital is expected to rise for independent power producers as well.

The changing environment has fostered considerable interest in incentive regulation, including price caps, revenue caps, targeted incentives, and related concepts. Possible benefits and drawbacks of performance-based regulation are examined, and several factors to consider in alternate regulatory plan proposals are enumerated. The role of demand side management will likely change as the industry evolves, and programs should be reviewed for continued effectiveness, but current Commission policy should be continued.

Given the complexity and long lead times for construction which have characterized the electric industry, system planning has been an important responsibility for utilities. It is unclear whether functions such as the close coordination between generation and transmission and selection of optimal capacity additions will be undermined by a move to a restructured model. Important questions remain. The Commission should consider steps to make planning data provided by utilities more reflective of utility-decisionmaking in the current period of uncertainty.

Other aspects of restructuring must also be considered. The environmental impact of restructuring is subject to some dispute, with federal agencies taking conflicting views of the likely result. Of additional concern to Virginia may be the impact of competition on tax revenues derived from gross receipt taxes as well as the competitive implications of taxing some energy suppliers and not others.

In the conclusion section of the Report, we provide additional observations on the driving forces behind the move toward restructuring, the position and approaches being taken by Virginia utilities and additional views regarding the possible benefits and disadvantages of a major restructuring at the retail level. The Report reiterates the preliminary step this study represents, given the significant changes now at issue, and emphasizes the need for ongoing evaluation and analysis.

Because of the fundamental nature of the changes being proposed for the electric industry and Virginia's posture as a relatively low-cost state, the Report concludes that it is unnecessary and inadvisable to implement a massive restructuring of the industry at this juncture, as several states are now undertaking. In fact, because Virginia is a low cost state, the Staff believes there may be little to gain and much to lose by being on the leading edge of a restructuring movement. There are assumptions which must be evaluated and complexities which must be addressed prior to determining the appropriate course of action. Measured steps and careful analysis of existing issues and future developments will best protect the public interest, in Staff's view.

The Report concludes with a list of specific recommendations for the Commission's consideration. The

recommendations, some of which are conditioned upon whether a decision is made to begin a transition to a competitive model, include the following:

- Utilities and cooperatives should conduct thorough cost-of-service studies, and allocation methodologies should be reviewed; cross-subsidies among customer classes should be eliminated.
- Prices for all utility services should be unbundled for informational purposes.
- Improved price signals should be developed.
- Alternative forms of regulation should be considered under certain circumstances.
- Retail wheeling experiments in other states should be monitored to determine whether similar activities should be initiated in Virginia.
- Reserve margins of utilities should be scrutinized and study of how to meet future incremental capacity needs should be undertaken.
- Utilities and high-cost non-utility generators should be expected to renegotiate contracts and lower costs.
- The Commission should seek regulatory flexibility to provide for the construction of merchant plants.
- The Commission should consider seeking flexibility that will allow the construction of dispersed energy facilities by non-utility generators.
- The parameters of the range of energy services which can be provided by utilities should be clarified.
- Utilities should be prevented from taking advantage of their monopoly position to compete unfairly in energy-related business activities.
- Maximum flexibility to address stranded costs and benefits should be maintained, and case-by-case determinations should be undertaken.
- Methodologies for stranded cost computations should be balanced and characterized by ease of understanding and simplicity of application.
- Increased periodic monitoring of service quality of utilities should be undertaken.
- Policies on conservation and load management programs, resource plans, and treatment of commercially-sensitive information should be reviewed and necessary modifications made.
- The Commission and the General Assembly should seek to preserve the jurisdiction of the Commonwealth to address issues related to retail electric service.