

INTRODUCTION

Senate Joint Resolution No. 259 requested that the Staff of the Virginia State Corporation Commission submit its draft of "... a working model, which may include experiments and pilot programs, most appropriate for the Commonwealth of Virginia for the future structure of the electric utility industry to provide reliable competitive electricity and meet the demands of a changing industry while protecting environmental quality..." This document responds to that request.

If, in fact, Virginia is to maintain a reliable and competitive supply of electricity that is produced in an environmentally sound fashion, movement to competitive generation and customer choice must be made with care and deliberation. At the outset, perhaps a statement of the obvious is in order. Electricity is unique; there is no other product or service in our economy that shares the singular qualities of electricity. It is ubiquitous. It is absolutely vital. It must be produced at the instant of consumption. The demand for electricity, while continuous, varies significantly on an hourly, daily, and seasonal basis. Electricity is provided through an integrated and physically inseparable network of generation, transmission, and distribution facilities. This network provides a service that is communal in that system reliability problems often cannot be isolated to individual utility systems or individual consumers. The production of electricity is heavily capital intensive and the availability of a reliable and reasonably priced supply of electricity is essential to the economic health of the Commonwealth.

Therefore, before proceeding with a presentation of a potential competitive model for the Commonwealth, a number of facts are worthy of reiteration. This is not meant to be a full discussion of these issues, but merely a recapitulation and summary. It is critical that these points be kept in mind as a competitive model is considered. As legislative policy relative to altering the fundamental structure of Virginia's electric industry is considered, the potential advantages and disadvantages of a competitive retail market for Virginians must be fully assessed before a final decision is made.

Price

First and foremost, there are no guarantees about what will happen to the price of electricity in Virginia in a competitive market. It should be noted that in comparison to U.S. weighted-average rates, Virginia's average total retail rate is 16 percent lower. The average rates of Virginia's residential, commercial, and industrial customer classes are lower than national averages by 15 percent, 25 percent, and 20 percent, respectively. As reflected in Appendix No. 2 to this report, Virginia ranks 20th relative to other states in terms of lowest total average rates. While the State's average residential rate ranks 22nd in comparison to other states, Virginia's commercial and industrial average rates each rank 12th. Further, much of Southwestern Virginia is served by one of the lowest cost utilities in the country. If rates across our state or region levelize, some or perhaps many of our consumers may ultimately see increases in the cost of the generation component of their bill while others may see cost reductions.

Although there are a number of studies that conclude there will be a broad-based decline in the cost of electricity both regionally and in Virginia, the Staff believes that the assumptions driving a number of these studies are flawed in that they typically ignore the stranded cost issue; they do not recognize the potential for the market price to exceed regulated rates for low cost utilities; and they do not address transmission constraints and the attendant issue of market power. Chapter 5 of this report provides specific information on a number of these studies.

It should also be recognized that industry restructuring will generate a number of transition and transaction costs. For example, there will be costs associated with establishing the market structures (ISOs and RPXs discussed later) necessary to accommodate retail access. The information technology

systems that are necessary could prove very expensive and the transaction costs associated with the third-party provision of electricity are real. It must be ensured that the costs associated with moving from a competitive wholesale market, which is currently developing, to retail competition do not outweigh the potential benefits. It may be that a competitive retail market produces efficiencies that override these costs as well as any levelization effect and, as a result, our consumers may benefit. However, it is premature to conclude that retail competition will lower rates to most or all of our consumers.

Reliability

As Chapter 2 of this report indicates, we must also be concerned about the reliability of the bulk power system if generation is to be treated as a market commodity. All markets have periods of imbalance between supply and demand. We must recognize that a market driven response to a capacity need can be expected to create such periods of demand and supply imbalance. Whenever capacity constraints exist, mandatory load shedding may be necessary, or if consumers have price information, the price of electricity may rise to a level where customers reduce load to eliminate the constraint. The concept of electricity going to the highest bidder during periods of high heating or air-conditioning demand is troubling given the essential nature of this product. On the other hand, the high cost of providing small consumers with the ability to receive and respond to pricing information may be prohibitive, in which case, those consumers may not actually have this choice.

Bulk power reliability not only entails the generation of electricity but the delivery of power through the transmission grid to distribution systems and high voltage customers. We must assure that necessary transmission plant can be added when needed and that the demand on the transmission network imposed by retail access does not degrade transmission reliability to unacceptable levels.

It now appears that bulk power reliability issues are best addressed by developing a fully functional independent system operator (ISO) with the authority to: mandate generation reserves; require the expansion of the transmission system; dispatch generation; redispatch generation during periods of constraint; and eliminate transactions that would jeopardize the stability of the bulk power system. A fully functional ISO may be difficult and expensive to implement but appears absolutely necessary before broad-based retail access can be seriously considered.

It should be noted, however, that establishing an ISO may transfer the authority relative to the reliability, pricing, and perhaps the determination of need for new transmission facilities from the states to the federal government. We believe that states can and should exercise authority in these areas, especially given the critical nature of maintaining a reliable regional bulk power system.

Stranded Costs

While a more complete discussion of stranded costs is presented as Chapter 4 to this report, a number of points need emphasis. First, although stranded costs are often viewed as an impediment to competition, if in fact our utilities have no stranded costs, this essentially means that the market price of electricity will exceed or compare with regulated rates.

Since stranded costs represent the difference between embedded costs and market prices, the stranded costs associated with a generation asset can only be calculated by projecting the market and regulated prices of electricity over the life of the generating asset, which might be decades. In short, stranded costs cannot be rigorously calculated up-front.

The stranded costs issue must be addressed, however, prior to the initiation of any significant level of customer choice. Customers must have information relative to any potential stranded cost obligations if they are to make cost effective economic decisions in a competitive market.

Finally, during a transition period that might accelerate the recovery of stranded costs, rates will be higher than would otherwise be the case. As a result, consumers may have a difficult time saving money while purchasing power from the competitive market and paying stranded costs. To the extent a competitive market offers economic benefits, those benefits may not be realized to any large degree until any allowed stranded costs recovery is complete.

Stranded Margins

Staff believes that the transition to a competitive market could cause some rates to increase if a levelized market price of electricity exceeds regulated rates. This problem may be especially acute for customers of lower cost utilities. When the market price exceeds regulated rates, stranded margins are produced, rather than stranded costs. To the extent ratepayers of high cost utilities are required to pay stranded costs, Staff believes that symmetry and equity demand that customers of low cost utilities be credited for any stranded margins that exist.

The stranded margins issue may be resolved by requiring that low cost utilities provide their customers with a credit during a transition period that is similar to the stranded cost payment made by customers of higher cost utilities. This issue could also be addressed by providing customers of low cost utilities with some form of extended rate protection such as a rate freeze or rate cap. Those utilities that assert that rates for all consumers will decline in a competitive market should have no difficulty with this concept of consumer protection.

Market Power

Staff would also note that the provision of customer choice may not be synonymous with the deregulation of generation. For example, as detailed in Chapter 3 of this report, the configuration of Virginia Power's bulk power system could allow that utility to exercise considerable market power in its service area if generation is deregulated. While there may be means of mitigating such market power, we must absolutely ensure that deregulated monopolies do not survive a restructuring process in Virginia. It is likely that extended rate protection for Virginia's consumers will be necessary until it can be demonstrated that a competitive market has overcome the market power of incumbent suppliers.

Tax Issues

Tax consequences must also be confronted as the deregulation of generation is considered. Currently all electric utilities providing retail service in Virginia, and regulated by the Commission, pay a state license tax and a special regulatory tax on gross receipts.

If customer choice becomes a reality and if electric generation is purchased from entities that are not public service companies, or from suppliers outside the Commonwealth, the revenues associated with these transactions will no longer be taxable under current law. Likewise, if Virginia utilities dramatically increase the provision of generation services to customers outside the Commonwealth, gross receipts tax revenue would be diminished.

In addition, if our higher cost utilities have stranded costs, the value of their generation assets may be reduced in a competitive market. Inasmuch as many of our localities are heavily dependent on local

gross receipts taxes and on property taxes as well, a change in the structure of our electric utility industry may have a significant impact on many of Virginia's local governments.

This issue is currently being reviewed by a task force reporting to the SJR 259 subcommittee. This task force is studying alternative taxes in an effort to retain tax revenue while maintaining a "level playing field" for a potential array of electricity suppliers in a competitive market.

Other Issues

The deregulation of generation has a number of other implications that warrant some preliminary discussion as well. For example, if generation is deregulated before the decision is made that full retail access is practical and desirable for Virginia, it may be difficult to exercise control over generating assets that have been sold or transferred to an unregulated affiliate.

On the other hand, absent some change in current law, it is unlikely that new generation will be provided by competitive entities during a transition. Perhaps this issue can best be resolved by allowing for merchant plants that can be constructed absent the historical requirement of a showing of need. It is envisioned, however, that SCC siting oversight would be retained given the impact of new facilities on the environment, the operation of the regional power system and on the need for new transmission facilities.

Eminent domain issues must also be addressed. Historically, utilities have been allowed to exercise the right of eminent domain when constructing generation facilities and transmission lines necessary to interconnect those facilities. The right of eminent domain was provided because these facilities were constructed to serve the public good. Will merchant plants (unregulated generators) serving essentially private pecuniary interests be given this power, and will the construction of unregulated generation dictate the condemnation of private property for the construction of interconnecting transmission facilities?

This issue has currency with the Commission in the telecommunications area in that some new entrants into the local exchange market, chartered as public service companies, are proceeding with easement acquisitions threatening to exercise their claimed power of eminent domain. The magnitude of this issue can be appreciated when one considers that the SCC has granted certificates of public convenience and necessity to over 30 new local exchange entrants.

Finally, the compatibility of the economic deregulation of generation and nuclear power deserves a particular focus. Virginia Power has approximately 3400 MW of nuclear capacity; this represents 19 percent of the Company's installed capacity of approximately 17,900 MW. The Staff believes that the continued health of the nuclear industry in our state is critical from reliability, fuel diversity, and public health/safety perspectives. This issue adds an additional level of complexity that must be considered if deregulation and customer choice are pursued.

The preceding pages outline a number of critical points that should be kept in focus as the following process and competitive model options are reviewed.

If these issues can be resolved successfully, and if an effective and fully competitive market can be developed, some of Virginia's citizens and businesses may see lower electricity rates and be offered new, different, and innovative services from a variety of suppliers bidding to serve their energy needs. Others may see higher rates. As previously noted, there are no guarantees relative to how a competitive generation market will affect the price and/or reliability of Virginia's electric supply.

DRAFT WORKING MODEL

The introduction of more competition into the generation sector of Virginia's electric utility industry and the consideration of competitive retail access represent significant and complex changes for our electric utilities and for their customers. A fully functional competitive generation market cannot be declared or decreed into existence but must evolve, if it is to develop at all, with reasoned assistance from legislators and regulators. Consideration of any responsible plans to help establish a competitive market must include a transition period for incremental steps based on experimentation, evaluation and modification, as necessary.

The Commission Staff recommends that the transition in Virginia include distinct, but perhaps overlapping, phases. In the first phase, we propose the following: an assessment of retail rates in Virginia; adjustment of those rates as necessary; implementation of rate and service experimentation involving competitive retail access pilots; and the creation of specific market structures necessary to capture competitive benefits for all Virginians. Following this rate review/experimentation phase, a decision phase on whether and how best to pursue retail competition would then be undertaken.

This model, we believe, would assure that the General Assembly and the Commission will be as fully informed as possible of the potential benefits and costs of legislative/regulatory actions that will have to be considered during the transition period. At the same time, the tentative schedule envisioned in this model moves the Commonwealth surely and steadily to the point where an informed and reasonable decision may be made as to whether the implementation of retail competitive access is possible, advisable, and in the public interest.

Phase I - Rate Review/Rate Experimentation (1998 - 2001)

A. Rate Review and Evaluation -- It is essential that each of the investor-owned utilities and cooperatives be subjected to a rigorous and thorough rate examination prior to any effort to implement retail access. This is especially necessary since these rates may be in place for an extended period of time during a transition period. If initial rates are not reflective of costs, either the consumers or the utilities may be economically disadvantaged during the transition period.

The Commonwealth's two largest utilities, Virginia Power and AEP - Virginia, have rate/alternative regulatory plan cases now pending before the Commission and Allegheny Power is expected to file in early 1998. Thus, it may be said that the Commission is now engaged in this phase of the recommendation. These rate reviews should not only determine the extent to which existing rates reflect costs, but should undertake preparatory work for a competitive model and should include resolution of the following issues:

1. Parity - Current rates for some of our utilities may reflect some amount of inter-class subsidies. Such subsidies cannot be maintained in a fully competitive market. Therefore, any and all subsidies must be identified for each of our utilities. If subsidies are found, a determination must be made as to whether and at what speed they should be adjusted. The effect on rates caused by movement towards parity must be identified, and rate changes to address disparities must be ordered.
2. Unbundled Rates - The actual costs of generation, transmission and distribution must be identified and separated so informed decisions can be made as to whether and how generation should ultimately be deregulated.

3. Unbundled Bills - The logical extension of unbundling rates is to state separately the cost of generation, transmission, and distribution (and perhaps ancillary services) on consumer bills. This is necessary to prepare for an environment in which those services might be provided by three separate and distinct entities.

The actions contemplated in Paragraphs 1 - 3 are necessary and appropriate and should be taken irrespective of whether the final decision is to deregulate or to retain some form of regulation over the generation of electricity.

At the same time that the rate evaluation and adjustments are being made, several additional long-term issues must be studied.

4. Stranded Costs - Regulatory treatment of stranded costs has potentially enormous economic implications on utilities, their customers, and the development of effective competition. It is now premature to reach definitive conclusions as to the calculation and appropriate treatment of such costs because not enough is known about the future market price of electricity. We should, however, begin to focus on the many issues associated with stranded costs. These issues include the following questions:

- a. Do stranded costs, in fact, exist? How will stranded costs be calculated? Should calculations be determined and fixed as of a certain date or should there be an adjustment mechanism of some sort?
- b. Should utilities be permitted to recover stranded costs? What are the standards for recovery? Should there be a sharing of such costs between ratepayers and stockholders? Should recovery be contingent on a demonstration by the utility of its cost mitigation efforts and a demonstration of the efforts undertaken by the specific utility to "make competition work?"
- c. If recovery is found necessary and appropriate, over what time frame should stranded costs be recovered? Is there a rate design mechanism—a wires charge, an exit fee or a combination of both—that is appropriate for recovery of stranded costs? What rate impact for the compression and recovery of stranded costs can be tolerated? How will stranded costs be allocated to the various customer classes?
- d. To what extent does stranded cost recovery inhibit competition by limiting competitive alternatives to the incumbent utilities?
- e. Should new customers of electric utilities, especially those taking service under economic development rates, be liable for potential stranded costs in the advent of retail access?
- f. What legislative changes might be necessary, if any, to implement the decisions made on the stranded cost issue?
- g. How will changes in federal environmental laws, especially those associated with carbon emissions, change today's perception of anticipated stranded costs?

5. Stranded Margins - The customers of our low cost utilities may experience rate increases if regulated (i.e., cost-based) generation rates are replaced with competitive (i.e., market-driven) prices. Just as a decision must be made relative to the ability of high cost utilities to recover stranded costs, a decision must be made relative to the ability of customers of low cost utilities to retain the benefits associated with stranded margins.

6. **Transition and Transaction Costs** - In addition to the stranded cost/stranded margin issues, we must also recognize that the introduction of retail access could result in a significant level of transition/transaction costs. For example, it will cost money to establish an ISO and/or an RPX. The cost of information technology systems necessary to implement broad based retail access will be significant and real time metering systems could be expensive as well. Finally, transaction costs imposed by power marketers (middle men) must ultimately be borne by consumers. While these costs may be more than offset by the efficiencies of a competitive market, they must be acknowledged in the determination as to whether to proceed to retail access.

7. **Ancillary services**- Costs of ancillary services, such as load following, reserve provision and balancing, which are related to both generation and transmission, may have to be separated to ensure that cost shifting for these services does not occur in a competitive environment.

8. **Customer Protections** - We must recognize that it may be necessary to afford residential and small commercial consumers with some degree of regulatory protection for a number of years. This protection may be necessary until a fully developed competitive market can prevent the incumbent utilities from the exercise of monopoly power. Protection might come in the form of an extended rate freeze, a rate cap, or rates that are indexed to a specific inflation measure.

B. Formation of an ISO/RPX -- The formation of an Independent System Operator is absolutely essential if a significant level of retail access is to become a reality. Consequently, during Phase I, the Commission should, with input from the various stakeholders, pursue a process that will accommodate the formation of one or more regional ISOs. This process will likely involve a coordinated approach with other states as well as the federal government.

The Staff also believes that a Regional Power Exchange (RPX) is necessary to accommodate broad based retail access. Consequently, during Phase I our utilities should pursue such a regional exchange in order to develop a transparent spot market for electricity. The success in establishing such a regional market can be gauged and reviewed periodically in determining whether and how to proceed with retail access. If, for example, we are unsuccessful in establishing an effective exchange for Virginia, the decision must then be made whether or not retail access can or should be pursued for all customer classes. In any event, the development of the ISO and RPX should not await the customer choice filings referenced later in this document.

C. Retail Choice Experimentation and Study -- Phase I should also include the implementation of retail access pilot programs and studies.

1. Virginia's major investor-owned utilities and at least two cooperatives should participate in pilot programs and studies, of one to two years duration, developed by the utilities with guidance from the Commission. The purpose of the pilots/studies is to provide hands-on experience and specific information on at least the following issues:

- o The information technology requirements for retail access and whether and when such technology will be available to accommodate communication among the power supplier, the transmission company, the distribution company and the consumer;
- o Whether and how generation supplies delivered to the distribution systems on a real-time basis match the loads to which those supplies are dedicated and, if they do not match, what reconciliation is required so that the price of electricity delivered by third-parties for specific consumers is not reallocated to, and paid by, other consumers;

- Whether and how the costs of ancillary services, especially generation reserves, can be allocated in an equitable fashion among all consumers;
- Whether time-of-use metering will be required and, if so, the cost of such metering; whether load profiling will instead suffice for small consumers and how those load profiles will be developed and applied; whether time-of-use metering and/or load profiling will accommodate aggregated service for small consumers;
- How third-party suppliers should disclose their rates and terms and conditions of service to ensure that consumers can fairly compare options; how bills should be designed and presented to enhance customer understanding of retail access;
- Whether and how affiliates of existing utilities can compete fairly and what rules of conduct are necessary to govern affiliate relationships with the incumbent utilities;
- What rules of conduct or regulatory oversight should be applied to third-party suppliers;
- Whether the metering and billing functions should continue to be done by the distribution company or whether those functions can and should be handled by the competitive market;
- Whether, and if so what, consumer protection measures and standards of service quality must be adopted; and,
- Additional information on a number of miscellaneous issues related to customer participation levels, supplier interest, marketing practices, and the degree and type of consumer education measures that might be required.

2. The retail pilots/studies are expected to provide significant information applicable to a retail access model, but pilot programs cannot provide meaningful information about the price of electricity or the maintenance of reliability in a fully competitive market. Nor will pilots disclose the ability of the market to identify and overcome instances of market power. Even so, gaining insights into the issues detailed in Paragraph No. 1 will foster an informed decision as to whether and how competitive benefits can be best pursued.

D. The Staff would, on a continuing basis, monitor the progress of the Virginia pilot programs, development of the ISOs and RPXs and the measures undertaken in other states. Findings will be presented to the General Assembly and the Commission as necessary.

Phase II - Decision Phase (2000 - 2002)

A. At the beginning of this phase, the Commission and the General Assembly should review: the operation of pilot programs; the progress made in establishing an ISO/RPX; and progress made in other states relative to retail access. We must address reliability issues and, as previously mentioned, evaluate the potential transition and transaction costs associated with taking the step from wholesale to retail competition. We must then compare those costs to the potential benefits to be derived from making such a change. If a review of all these factors supports the development of a retail competitive model, all electric utilities operating in Virginia may be required to file retail access programs by a date certain.

B. All such customer choice filings should explain how the program will meet the standards set out in Senate Joint Resolution No. 259, and any subsequent standards that might be based on the lessons

learned from the retail access pilot programs and the experience of other states. At a minimum, utilities must show in detail how their program will maintain reliable and competitive electric supply while protecting environmental quality. The filings should specifically detail:

- how generation/transmission reliability will be maintained;
- the extent to which an ISO/RPX has been developed, can be expected to be developed, or why they are unnecessary;
- the likely rate impact the proposal will have on the various customer classes;
- what information and metering technology will be necessary and the associated cost;
- how market power issues will be addressed;
- what customer protection measures are necessary and how they will be implemented;
- the proposed period for implementation of the program;
- how stranded costs/stranded margins should be addressed; and
- the likely effect of the proposal on the environment.

C. If a utility cannot develop a customer choice program that complies with these standards, its filing should detail why it was unable to develop an adequate program, whether and when such a program will be forthcoming and the steps that will be taken to develop it.

D. The Commission will conduct public hearings on the submissions. If it concludes that a program, proposed or modified in the hearing, meets the standards and that net benefits would accrue from its adoption, the implementation of customer choice should begin. If the transition process is proceeding in an orderly manner, its phase-in could be accelerated. If the implementation of choice proves more difficult, the phase-in period could be extended, if necessary.

Options for Competition

The transition model described thus far is more accurately characterized as a rational and deliberative process that will enable the electric utility industry in Virginia to evolve to competition and will accommodate any decisions the General Assembly and Commission might make whether to deregulate generation and implement retail access. The Commission Staff believes strongly that information and experience acquired in the first phase is needed to enable policymakers to make informed and reasonable decisions on these matters. This transition model is structured to develop the necessary information and deliver it in a timely and orderly manner to those in the decision-making process.

While an ultimate competitive model cannot be fully defined at this time, the Staff believes, as previously noted, that the formation of an independent system operator is critical regardless of the ultimate structure of the industry. This process of developing an ISO should be initiated in the first phase of the model. Upon the development of a successfully operating ISO, there are several options for a deregulated electric market in Virginia, including:

A. Wholesale Competition Model -- As new generation is required to serve customers in Virginia, incremental capacity requirements could be supplied by requiring incumbent utilities to purchase power

supplies from the competitive wholesale market. If utilities elect a "build" option, capital investments would not be rate based and the price consumers pay for new capacity would be driven by the wholesale market. As existing generation sources of Virginia utilities age and are retired and as load grows, an ever-increasing portion of total generation would be delivered by the market, with the local distributor retaining the function of procuring and delivering electricity to all its consumers. This process could be "forced" by gradually basing the cost of generation from existing units on the competitive market or on some index to that market. Rates charged by the local company would ultimately reflect wholesale prices for generation, once any appropriate level of stranded costs are recovered.

While the development of the wholesale model would not mandate the formation of an RPX, Staff believes that such an exchange would, in fact, evolve over time and would increase the competitive efficiency of the wholesale market by providing for economic dispatch of generation over a broader market area. As a result, we believe that even if a decision is made to limit competition to the wholesale market, an effort should be undertaken early in the transition period to establish a regional power exchange.

B. Retail Competition -- If, during Phase II, it is determined that retail competition is best for Virginia, the Staff based on current knowledge, is aware of three basic models. We believe that two of these models should be explored but that the third (straight bilateral contracts) appears impractical and inoperable at this time.

1. **Expanded Wholesale Model** - The wholesale model previously discussed does not envision any direct retail access. This model could be expanded, however, to accommodate direct purchases of power by a limited number of large industrial customers. After all, it can be argued that such purchases by large industrials are not significantly different than direct purchases by wholesale customers such as cooperatives and/or municipals. It is certainly simpler and less expensive to accommodate direct access for large industrials than for all customers. In such a model, the Staff believes that an RPX is desirable and that an ISO is essential. In fact, the extent to which such access can be accommodated is a function of the technology available to the ISO and the distribution company. It is also a function of transmission import capability and the allocation of that capability to the various customer classes.

It should be noted, however, that the application of this model could harm some consumers if large volume customers are able to "lock-up" transmission capacity that has historically been used to import low cost energy for all customers. Care must also be taken to avoid the shifting of costs for ancillary services from large customers to smaller customers.

2. **ISO/RPX** - As previously discussed, it is the Staff's opinion that in order for a fully functional wholesale market to develop, an ISO is necessary and an RPX is desirable. If, however, broad based retail access is to be pursued, then an RPX operating in concert with an ISO is mandatory. Given this fact, it is appropriate to briefly review how an RPX might operate in concert with an ISO to deliver retail access. A full discussion of this concept is presented in Chapter 1 of this report.

The purpose of an RPX is to provide a dispatch logic for generation and to establish a competitive spot market for electricity. This could be accomplished by having all generation owners supply the RPX with a bid for the price of generation for each hour or half hour of the following day. The RPX would use this information to develop a dispatch order to serve load curves provided by retail suppliers of electricity (local distribution companies, marketers, etc.). The ISO could then direct the dispatch of generation, taking into account transmission constraints, until retail load is served. Thus, hourly price signals become available and, theoretically, the efficient use of

electricity can be maximized.

If the appropriate information technology becomes available to the distribution company, customers could exercise "contracts-for-differences" and have the equivalent of retail access. As retail access is pursued, it becomes more expensive and more complex to provide choice to smaller and smaller customers. As an example, in England, the reported cost to make retail access available to 55,000 customers with loads greater than 100 KW has approached a half billion dollars. Providing access to all customers including residential in England, even without real time metering, is expected to reach a total cost of \$1.5 billion.

The RPX/ISO model could be modified to accommodate bilateral contracts outside the power exchange for a limited number of large consumers. With the formation of an effective RPX, however, the need or logic for such transactions is diminished, especially considering the complexities they introduce.

3. Straight Bilateral Contracts - Retail access could theoretically be pursued by allowing customers to deal directly with suppliers without having an RPX in place to provide for dispatch logic or for a transparent spot market. Coordinating transactions would, we believe, be unmanageable absent significant technological advances. Additionally, this model may not provide for effective access to competitive suppliers for many classes of customers. In fact, the Staff is unaware of a pure bilateral contract model that is in operation.

Need for Legislation

The Commission Staff believes that just as the electric industry will evolve in Virginia, so must legislative changes. It is currently premature to attempt an overhaul of the Virginia Code as it relates to the regulation of public utilities. We are not aware of legislative changes necessary at this time, but will continue our review of how the Virginia Code should evolve to accommodate changes to our electric utility industry.

The Staff has identified at least two areas where legislative action may be warranted. The General Assembly may want to consider legislation that allows for the construction of merchant plants in the Commonwealth with the appropriate oversight of siting. The issues associated with the exercise of eminent domain should also be explored given the potential impact of merchant plants and the associated transmission facilities on the environment and on the regional bulk power system.

While there may be a number of additional areas where legislative changes may ultimately be needed, the Staff believes that legislative decisions made in Virginia should be made without attempting to anticipate when and whether federal legislation will be forthcoming. Virginia legislative decisions premised on an assumption that federal legislation will grandfather state restructuring initiatives may be inappropriate since none of the currently proposed congressional bills have provisions that truly grandfather state action (See Appendix No. 4). H.R. 655, introduced by Representative Schaefer, only grandfathers state legislation if it mirrors the requirements of the proposed bill. S. 237, introduced by Senator Bumpers, only grandfathers state legislation if enacted prior to January 30, 1997, provided the legislation has the effect of requiring retail competition on or before December 15, 2003.

Conclusions

The advancement of a competitive model for the generation of electricity in Virginia should be pursued with deliberation and with caution. It should be recognized that a competitive environment in Virginia

will take time to evolve and that evolution will be driven by a number of factors including technology development, federal legislative initiatives, actions taken by surrounding states and, of course, legislative and regulatory actions taken in Virginia.

The decision to adopt retail competition should not be made until policy makers are reasonably certain that benefits will outweigh the costs and that the problems associated with retail access have been identified and have workable, cost effective solutions.

If a decision is made to advance to retail access, it must be recognized that the challenges associated with replacing the traditional regulatory model with a competitive market are enormous and the process will take time and cost money. Ratepayer protection, perhaps for an extended period of time, may be necessary. At the appropriate time, decisions regarding stranded costs and benefits must be made. Reliability cannot be compromised and market power is a reality that must be addressed.

As we confront these issues, the Staff believes that competitive pressures will continue to play an increasing role in the provision and pricing of electricity in the Commonwealth. As we advance, certain decisions must be made. At this juncture, the Staff believes that a fully competitive electric market will require the functional unbundling of generation, transmission, and distribution. Distribution will be regulated on a state level. Transmission should be part of an ISO with price regulation likely to be at a federal level and siting regulation remaining with the Commonwealth. As stated earlier, however, we believe that the states should play a role in assuring that the ISO supports the reliability of the regional bulk power system in a cost effective manner. An RPX is necessary if access for all customers is to be pursued. Ultimately, the local distribution company or some other power supplier will act as a supplier of last resort, providing competitively priced electricity from the open market to those who have no competitive alternatives or who elect not to shop for electricity.

The chapters which follow examine several complex issues and associated concerns with electric utility restructuring leading to the Staff's recommendation for a deliberative and evolutionary restructuring process. Specific recommendations for this transition process have been presented in the foregoing *Draft Working Model* section of this report. The supporting chapters focus on six specific areas including reliability, market structure, stranded costs, market power, consumer impacts and environmental concerns. While each chapter focuses on a specific issue, there is significant redundancy in these discussions. For example, market structure cannot be addressed without consideration of reliability and market power. Likewise, consumer impacts cannot be discussed without focusing on reliability and on the stranded costs/stranded margins issue. Such overlap is unavoidable in that each chapter is essentially designed to be read on a "stand-alone" basis.

Following these Chapters are four Appendices. Appendix No. 1 is a copy of Senate Joint Resolution No. 259 which requests this study. Appendix No. 2 presents average rate comparisons on a state-by-state basis and on an international basis. The comparisons are discussed in some detail in Chapter 5 of this report. Appendix No. 3 presents a brief summary of the status of restructuring in those fourteen states that have been most proactive in this area. Finally, Appendix No. 4 presents a summary of draft federal legislation relative to restructuring the electric utility industry.