COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

STAFF REPORT PRESENTING FINDINGS AND RECOMMENDATIONS FOR ADDITIONAL IMPLEMENTATION EFFORTS FOR COMPETITIVE ELECTRICITY METERING

EX PARTE: In the matter of establishing rules and regulations pursuant to the Virginia Electric Utility Restructuring Act for competitive metering services

CASE NO. PUE-2001-00298

Division of Energy Regulation

August 30, 2002

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Introduction and Background

Introduction

The purpose of this report is to present recommendations regarding the implementation of additional elements of competitive metering services as required by State Corporation Commission ("Commission") Order. The report provides a review of the legislative background and regulatory history related to competitive metering and leading up to the publication of this report. In addition, the report summarizes the Commission's August 19, 2002 order, updates the status of competitive metering in other states, and provides the results of both a survey and a meeting of the competitive metering work group relative to meter ownership and other elements of competitive metering services. Finally, the report provides a recommendation that the Commission Staff, with the assistance of the competitive metering work group, propose rules relative to meter ownership by large industrial and large commercial customers.

Legislative Background

The Virginia Electric Utility Restructuring Act (§ 56-576 et seq. of the Code of Virginia) ("the Act"), as amended by the 2002 General Assembly, directs the Commission to promulgate certain rules and regulations as may be necessary to implement various provisions of the Act, including the provision of competitive metering services. Section 56-581.1 E of the Act states that the Commission shall implement the provision of competitive metering services by licensed providers

for large industrial and large commercial customers of investor-owned distributors on January 1, 2002, and may approve such services for residential and small business customers of investor-owned distributors on or after January 1, 2003, as determined to be in the public interest by the Commission. Such implementation and approvals must consider the nine statutory implementation criteria set forth in § 56-581.1 E of the Act. Upon the reasonable request of a distributor, the Commission shall delay the provision of competitive metering service in such distributor's service territory for up to one year. Section 56-581.1 F of the Act directs the Commission to promulgate rules and regulations as may be necessary to implement the authorization related to competitive metering services provided for in § 56-581.1 E. Sections 56-581.1 E and 56-581.1 F of the Code of Virginia are provided in Appendix A of this report.

Regulatory Background

In its Order dated May 15, 2001, the Commission established this proceeding, Case No. PUE-2001-00298, to promulgate rules for competitive metering services. In various orders since then, the Commission (1) directed investor owned distribution utilities to file their intended schedules for implementing competitive metering services, (2) directed the Staff to investigate, with input from a work group, and present recommendations on further procedures for promulgating proposed rules for competitive metering services, and (3) invited interested parties to comment on these issues. In its Order dated December 21,

2001, the Commission (1) granted certain delays[1] in the implementation of competitive metering for large customers, (2) ordered the Staff, with the assistance of the work group, to develop and propose rules by February 14, 2002[2] that provide customers and competitive service providers with reasonable options regarding meter data availability and accessibility, and (3) directed the Staff to proceed, with input from the work group, to further examine additional elements of competitive metering services and to submit this report providing its findings and recommendations for additional implementation efforts[3].

Background on Guidance Provided by the Work Group and the Commission

The Staff has received valuable philosophical insights and guidance from various work group participants and Commission orders regarding how to proceed with the implementation of competitive metering services in the Commonwealth. In the early stages of this ongoing process, the Commission encouraged the Staff and the work group to consider the feasibility and appropriateness of an approach that provides a reasonable level of flexibility for experimentation in light of the uncertainties surrounding competitive metering. In its various deliberations, the work group considered the requirements of the Act, Virginia's retail access business model and the contribution of metering to the operation of that market,

[1] The Commission granted the requests of Delmarva, Dominion Virginia Power, and AP to delay implementation of competitive metering until January 1, 2003, for large industrial and large commercial customers, but found it premature to rule on requests to delay the implementation of competitive metering for residential and small business customers.
[2] In Staff's Report dated February 14, 2002, Staff proposed rules allowing access to interval meter data by the customer or the customer's competitive service provider. In its Order dated February 19, 2002, the Commission invited interested parties to file comments on the proposed rules by March 25, 2002.
[3] In its Order dated June 19, 2002, the Commission granted Staff's motion for an extension of the time to file this report from June 30, 2002 until August 30, 2002.

the current state of industry restructuring in the Commonwealth, and the current status of competitive metering regionally and nationally.

In order to assist the Staff in developing a recommendation regarding further procedures for promulgating proposed rules, the work group discussed and generally agreed to a measured approach to competitive metering, given the current state and foreseeable future of competition in metering services. The work group participants generally agreed that a measured approach, initially ensuring the provision of data access, would serve the public interest and contribute to the goal of facilitating the development of effective competition in electric service for all customer classes. Timely access to interval or near real-time meter data is critical to the development of a competitive retail electricity market. This type of data access and availability will allow competitive service providers to deliver improved pricing signals which will provide customers with necessary information and proper incentives to adjust consumption patterns and, accordingly, help competitive service providers better manage risk and lower cost in the procurement of energy.

The Commission agreed that the availability and accessibility of meter data by customers and competitive service providers may be the elements of metering services most critical to advancing the development of a competitive electricity market in Virginia. The Commission directed the Staff to proceed, with the assistance of the work group, to develop and propose rules that provide customers

and competitive service providers with reasonable options regarding meter data availability and accessibility.

Several participants from the work group, including the Division of Consumer Counsel in the Attorney General's Office, have recommended proceeding with the implementation of additional elements of competitive metering services as soon as practicable. The Commission referred consideration and evaluation of such additional elements of competitive metering services to the Staff, with the assistance of the work group, and directed that such evaluations carefully consider the nine statutory implementation criteria set forth in § 56-581.1 E of the Code of Virginia. The Commission directed the Staff to file this report providing the status of its evaluations and recommendations for additional implementation efforts. The Commission also encouraged the active work group participation of competitive metering and energy service providers, including the presentation of specific proposals for experimentation.

In comments submitted by work group participants in response to the February 14, 2002 proposed rules, some additional issues regarding how to proceed were offered. The American Energy Institute expressed its belief that the Staff should include a recommendation relative to the desirability of competitive metering for residential and small commercial customers. Energy Consultants suggested that efforts should be made toward developing a voluntary pilot program with an appropriate combination of advanced metering and communication networks, demand response programs, and dynamic pricing.

Commission's August 19, 2002 Order Adopting Rules

After consideration of the parties' comments and the Staff Report dated February 14, 2002, the Commission adopted Staff's proposed rules as amended in the Commission's order dated August 19, 2002. Consistent with the Act, the Commission agreed that the rules implement competitive metering on January 1, 2003, by providing for meter functionality choices and data access choices, including access to meter data on a near real-time on-command basis.

The Commission asserted that the rules adopted do not address fully unbundled competitive metering services but noted that the Staff, with the assistance of the competitive metering work group, continues to meet to further examine additional elements of competitive metering services. The Commission agreed that, at this time, a thoughtful and deliberate approach to implementing these services is appropriate. The market for competitive metering services is expected to develop gradually, and the proposed rules take appropriate steps that will advance the efforts towards the implementation of unbundled competitive metering services. The Commission requested that the work group continue to meet to determine a schedule for implementation of additional elements of competitive metering services.

The Commission acknowledged that many large customers already have interval meters, and surmised that it is these customers that will most likely realize any potential benefits from initial implementation efforts. The Commission also expressed its belief that implementation efforts may be advanced if, in addition to

having access to interval meter data, customers are given additional meter functionality options. Thus, the Commission directed the work group to examine the issue of implementing meter ownership for large customers, as soon as practicable.

In its order, the Commission also addressed comments regarding competitive metering for residential and small business customers. The Act provides that the Commission may approve competitive metering services for residential and small business customers, as determined to be in the public interest. The Commission believes that it should be advantageous for these customers to have access to interval meter information, as evidenced by its adoption of the proposed rules. What is not clear at this time, however, is whether implementing competition in these services will bring better competitive offers and benefits to small customers more quickly. The Commission stated that full competitive metering services should be offered to residential and small business customers if it appears that implementation, carefully considering the nine statutory implementation criteria, is in the public interest. The Commission asked the work group to continue to examine whether the implementation of full competitive metering services for residential and small business customers would be in the public interest, and asked the members of the work group to respond to this key issue.

In addressing comments regarding the need for cost-effective deployment of advanced meters, dynamic pricing and demand response programs in order to

enable customers to gain more control over their electricity costs, the Commission opined that the adopted rules take initial steps in that direction by providing customers options to access meter data. However, the Commission expressed its understanding that economic barriers may exist to residential and small business customers purchasing interval data meters; in contrast, many large customers already use interval data meters. The Commission agreed that customers cannot take advantage of competitive offers utilizing time-of-use rates without access to real-time usage information. Some utilities' tariffs on file with the Commission include time-of-use rate schedules available to both large and small customers. Thus, the Commission expressed its belief that the work group should study the possibility of the utilities establishing voluntary time-of-use programs or expanding existing time-of-use programs for residential and small business customers.

Competitive Metering in Other States

A review of competitive metering developments in other states implementing retail access revealed little activity toward the establishment of a robust competitive metering market, at least through the end of 2002.

- Arizona (rev. 6/02): The Arizona Corporation Commission ("ACC") approved competitive metering, including customer meter ownership, and the local distribution company cannot own the meter of a direct access customer except for load-profiled customers. As of May 7, 2002, the ACC had certified eight competitive generating service providers to "resell" to their customers

those metering services provided by a subcontracted meter service provider ("MSP"), and had certified four non-generating entities to provide metering services to competitive service providers. However, as of June 2002, there were no direct access customers and, further, no competitive MSPs had been certified to contract directly with customers. The ACC does not anticipate any new developments through the end of 2002.

- California (rev. 8/02): On September 20, 2001, the California Public Utilities Commission ("CPUC") suspended direct access to new customers; however existing direct access customers were allowed to remain with their current energy service providers. Under direct access, only local distribution companies and energy service providers were allowed to provide metering services. On June 6, 2002, the CPUC issued an order instituting a rulemaking on policies and practices for advanced metering, demand response, and dynamic pricing. The goal of the first phase of the rulemaking is to consider a strategic approach towards the orderly development of demand responsiveness capability in the California electric market. A decision on the first phase of the rulemaking is scheduled for January 2003.
- Delaware (rev. 6/02): As part of the settlement agreement in the Conectiv/Pepco merger, Delmarva agreed to work in good faith with the Delaware Public Service Commission ("DPSC") and other interested parties to initiate a pilot program for approximately 250 residential or small commercial customers to test the appropriateness of larger-scale initiatives or offerings with respect to real-time metering, advance-pay metering, or other

similar metering technologies. The DPSC does not anticipate any new developments through the end of 2002.

- Illinois (rev. 06/02): The Illinois Commerce Commission ("ICC") approved competitive metering January 2, 2001, and IMServ North America was approved as a licensed meter service provider on March 23, 2001, but only in Commonwealth Edison's service territory. As of June 2002 the ICC had received a second application from an out-of-state company for a certificate of service authority to provide metering services throughout Illinois, and the decision was pending. However, there were no customers taking MSP service as of January 1, 2002. The ICC does not anticipate any new developments through the end of 2002.
- Maine (rev. 06/02): Legislation was revised to revoke the previously legislated deadline and to give the Maine Public Utilities Commission ("MPUC") discretion to implement competitive metering through rulemaking procedures. The MPUC has not set a timetable to define or implement competitive metering. Customers may request an interval meter subject to reasonable incremental costs. The MPUC does not anticipate any new developments through the end of 2002.
- Maryland (rev. 6/02): The Maryland Public Service Commission ("MPSC") adopted a phased approach to competitive metering beginning January 1, 2002, with access to meter data on a near real-time, on-command basis and allowing large-customer or third-party ownership of the meter. The MPSC accepted tariffs of the Joint Utilities in April 2002. In May of 2002 the

Competitive Metering Work Group ("CMWG") recommended that further meetings of the CMWG be suspended for a year in order to allow sufficient time for the tariffs to work and, in so doing, provide additional information regarding market development and customer value.

- Massachusetts (rev. 6/02): The Massachusetts Department of Telecommunications and Energy ("DTE") determined that metering services should not be unbundled. Interval metering and access to data must be provided at the customer's request. Customers must pay a cost-based fee for installation of advanced meters and access to interval data. The DTE does not anticipate any new developments through the end of 2002.
- New Hampshire (rev. Jan. 02): The New Hampshire Public Utilities Commission ("NHPUC") determined that metering services should not be unbundled.
- New Jersey (rev. 6/02): Due to an impasse in the competitive metering work group process during 2001, the New Jersey Board of Public Utilities ("BPU") had planned a separate formal proceeding in 2002 to consider whether to implement competitive metering; however, the proceeding will likely be delayed until 2003 by mutual consent of the participants. In part during the work group process, the local distribution companies refused to provide competitive service providers read-only access to the utility meter at no cost absent a formal mandate relative to competitive metering services; in addition, certain demands by the meter service providers proved untenable.

- New York (rev. Jan. 02): The New York Public Service Commission ("NYPSC") approved competitive metering for some large customers and issued a manual for practices and procedures on January 24, 2001; however, as of January 1, 2002, the NYPSC had received no applications from prospective MSPs. Six meter data service providers ("MDSPs") have been certified to provide energy management; however, they are not certified to provide competitive meter data management services. The MDSPs are provided a data pulse but are not given read-only access to the utility meter.
- Oregon (rev. Jan. 02): Legislation specifies that competitive metering may be implemented at the Oregon Public Utility Commission's discretion, but no activities are underway to implement competitive metering or to allow third-party access to the billing meter.
- Pennsylvania (rev. 6/02): The Pennsylvania Public Utility Commission approved settlements with the local distribution companies that recognize competitive metering; however, there were no licensed MSPs as of January 1, 2002. Customers may request interval metering and access to interval data is required. The PUC does not anticipate any new developments through the end of 2002.
- Texas (rev. 8/02): The Texas Public Utility Commission is required to implement competitive metering services on January 1, 2004 for commercial and industrial customers. For residential customers, competitive metering is to begin on the later of September 1, 2005 or the date at which 40 percent of residential customers are taking service from unaffiliated retail electric

providers. The PUC has scheduled a workshop for September 17, 2002, to consider rulemaking to address competitive metering.

Analysis of Competitive Metering for Large Customers

Introduction

This section provides the results of both an electronic survey and a meeting of the competitive metering work group relative to the implementation of additional elements of competitive metering services for large customers. Four options regarding how to proceed with competitive metering for large customers are addressed. The general consensus of the work group participants was to proceed with the development of rules for financial ownership of meters by large customers.

Analysis of March 6 Electronic Survey

Staff surveyed the competitive metering work group electronically on March 6, 2002. The survey addressed the potential implementation of additional elements of competitive metering, primarily customer meter ownership, in the context of the nine statutory implementation criteria. The survey was submitted to 30 different entities associated with the work group, and responses were received from the attorney general's office, four utilities, one competitive service provider, one meter service provider, and one energy management firm.

The responses were mixed with respect to the potential benefits of customer meter ownership, depending largely on how meter ownership was defined. Some

respondents suggested that customer meter ownership might not be necessary to the development of effective competition in electric services; however, none suggested that customer meter ownership would be detrimental to the development of effective competition in electric service or jeopardize the safety, reliability or quality of electric service. When the concept of meter ownership was limited to financial ownership by the customer, only minimal concerns were expressed relative to the readiness of large customers to buy meters, the need to educate and prepare large customers for the implementation of meter ownership, and the technological feasibility of meter ownership. The concept of third-party ownership by a competitive service provider elicited stronger concerns. No major concerns were registered relative to the ability of an incumbent utility to provide default service or the potential effects of such determinations on utility tax collection.

On May 3, 2002, the Staff submitted a follow-up question related to non-utility ownership of the meter in order to explore the premise that such ownership might lead to certain otherwise unavailable benefits. The potential benefits included innovative pricing alternatives, improved management of the wholesale market, and customer response to potentially high prices during peak energy usage. Upon this further review, work group participants did not appear to be convinced that non-utility ownership of the meter would offer any additional benefits in these specific areas over what is already possible under the new metering rules.

The Staff also asked the work group in its March 6 survey to comment on the potential implementation of other elements of competitive metering in addition to meter ownership. While some respondents acclaimed the benefits of competitive metering when competitive conditions are right, there was no consensus that other elements (beyond meter ownership) should be made competitive on January 1, 2003. Several responses addressed the complexity of issues associated with the implementation of other elements of competitive metering or suggested that it may be premature to include other elements of competitive metering given the lack of an effective competitive metering marketplace anywhere. Only one respondent attempted to prioritize the potential implementation of other elements of competitive metering, suggesting that the implementation of meter reading services be addressed after meter ownership.

Work Group Meeting of July 31, 2002

The work group met on July 31, 2002, in order to discuss, in part, how to proceed with the implementation of additional elements of competitive metering. The work group debated four options that addressed various combinations of mechanisms, elements and timelines for the implementation of competitive metering. The four options are listed briefly as follows and then discussed in more detail below:

1. The utilities develop and file experimental tariffs for additional elements of competitive metering in lieu of developing rules in the short term.

2. Staff, with assistance from the work group, proposes rules to implement "financial ownership" of the meter by the customer.

3. Staff, with assistance from the work group, proposes rules to implement "full ownership" of the meter by the customer.

4. After rules for meter ownership have been implemented, the work group (a) reconvenes immediately in order to proceed with the development of rules for additional elements of competitive metering, such as meter reading, or (b) shifts its focus to monitoring market developments.

Option 1. Utilities File Experimental Tariffs in Lieu of Formal Rules

Under Option 1 the utilities would develop and file experimental tariffs, without the development of specific rules. At the very least, the utilities would offer customers the option of meter ownership, and, if desired, accommodate meter reading and meter data management by a competitive provider if the local distribution company and the competitive provider can develop and implement all of the necessary procedures for data transfer.

The work group participants did not favor Option 1 as a viable alternative to the development of formal rules. However, the work group participants noted that utilities continue to have the option of filing experimental tariffs if they wish to accelerate or expand the implementation of additional elements of competitive metering on a voluntary basis.

Option 2. Financial Ownership of the Meter by the Customer

Under Option 2, customers may purchase any meter certified by the customer's local distribution company. Conceivably, certified meters could be purchased from the local distribution company, the local distribution company's affiliate, the customer's competitive service provider, the meter manufacturer, or

the manufacturer's distributor. The customer may also purchase a non-certified meter from the meter manufacturer or manufacturer's distributor or the customer's certified competitive service provider, if the meter is determined by the local distribution company to be compatible with the utility's metering and billing systems. After such determination, the non-certified meter would then be categorized as a certified meter.

In any case, the local distribution company would continue to provide installation, testing, maintenance, customer accounting, reading, and data management services related to the customer-owned meter. The majority of the work group favored this option as a practical and measured way to move forward with competitive metering in the context of the nine statutory implementation criteria and given the lack of a robust competitive metering market. Under this option, the customer would likely receive a back-out credit net of any incremental costs for services attributable to meter ownership. The utilities recommended that the definition of large customers be defined on a utility-by-utility basis according to predefined rate schedules. Other participants were concerned that limiting ownership to large general service customers would unnecessarily restrict the available market.

Option 3. Full Ownership of the Meter

Under Option 3, ownership of the meter would be expanded to allow "full" ownership of the meter by the customer or a competitive service provider with customer consent. The customer or the competitive service provider would be

responsible for meter procurement and obtaining a qualified meter service provider to perform the installation of the new meter, removal and return of the existing meter to the utility, and testing and maintenance of the new meter.

The majority of work group participants expressed a general consensus that the development of rules for these additional meter services would be very complicated and should be deferred until the market for competitive electricity supply service begins to develop. Additionally, competitive metering market developments in other states would provide valuable information for the development of rules in Virginia. Utilities were concerned that proceeding with the necessary system development prior to indications of competitive activity or interest, and without significant input from competitive service providers, would result in the risk of substantial rework and additional costs when interest in the competitive provision of these services increase. One competitive service provider representative favored Option 3 as the most likely scenario to promote competition and suggested that implementing an aggressive program obviates the need to alter the rules after a competitive environment materializes.

Option 4. Temporary Redirection of the Work Group

Under Option 4, following implementation of rules for meter ownership, the work group could temporarily shift the focus of its efforts, rather than immediately reconvene to begin working on the development of rules for additional elements of competitive metering. Under this scenario the Staff, with assistance of the work group, would track the development of the competitive

metering market nationwide, as well as customer interest in the interim tariffs for meter ownership. The Staff would submit a report in approximately one year detailing its observations of the market and providing recommendations on how to proceed. Additionally during this time, some work group participants might be able to focus on other efforts of interest, such as consideration of voluntary new or expanded time-of-use programs or experiments. The work group recommended tracking market development for a period of at least one year; however, the participants indicated that the work group must be willing to refocus on the development of rules on short notice in the event significant developments in the market occur sooner than anticipated.

Competitive Metering for Residential and Small Business Customers

In comments made in response to the Staff's February 14, 2002, report presenting proposed rules to initiate the implementation of competitive metering services, the American Energy Institute ("AEI") requested the Commission to direct the Staff to include a recommendation in this report relative to the desirability of competitive metering for residential and small business customers. According to AEI, until the Commission makes a finding regarding the feasibility of competitive metering for residential and small business customers, industry participants will be unable to make meaningful recommendations about how to provide advanced metering to small customers. In its August 19, 2002, Order as

previously mentioned, the Commission directed the Staff, with assistance from the work group, to provide input on this important issue.

The AEI believes that competitive metering for small business and residential customers is not economically viable and would thwart the provision of advanced metering to those customers. The AEI argues that meter economics are such that, to deliver the benefits and savings of hourly metering to all customers, policymakers must enable long-term financing of meters and take advantage of utility scale economics. The AEI believes that without universal utility deployment, small, low-income customers are likely never to have the benefits and opportunities of advanced metering.

There are two approaches for advancing the implementation of interval metering for residential and small business customers. Some experts suggest that, in the long run, competitive metering might support an advanced metering infrastructure at the small customer level. Others submit that regulatory intervention is preferable for the deployment of advanced metering. Currently, the Act provides the Commission discretionary authority to require competitive metering for residential and small business customers. The competitive metering approach leaves the decision whether to install interval metering, and the responsibility for its investment cost, to individual customers and their competitive suppliers. A regulatory approach, as suggested by AEI, would require or encourage incumbent utilities, in their role as the provider of distribution service, to install advanced meters. Given the capped rate and competitive metering

provisions, the Act does not appear to contemplate the option of the AEI suggested regulatory approach, requiring or encouraging system-wide deployment of interval metering for smaller customers by incumbent utilities. However, in its August 30, 2002 report on the status of retail competition in Virginia, the Commission reports AEI's concerns and proposal to the LTTF. Should the LTTF decide to allow for a new direction Staff would respond accordingly.

At this point, the competitive metering work group is focusing its efforts in the short term on the development of rules for large customer meter ownership and the implementation of additional elements of competitive metering for large customers. The Act provides the Commission discretionary authority to require competitive metering for residential and small customers on or after January 1, 2003, whereas the implementation of competitive metering for large customers is more pressing. Given the lack of competitive metering market development anywhere in the country, the Staff is loath to make a recommendation in this report relative to the public interest criteria for the implementation of competitive metering for small customers. However, the Staff, with the assistance of the work group, will continue to monitor market developments and explore this important issue. Staff also notes that under the Commission's recently adopted rules, small customers have the option of obtaining interval metering service from the incumbent utility at the incremental cost above basic metering service.

Price Signaling Technology and Demand Side Management

Upon deliberation of numerous issues, the Consumer Advisory Board ("CAB") in its report to the Legislative Transition Task Force ("LTTF") in December, 2001, presented 12 legislative proposals. Two of the proposals merit discussion in this report, specifically, CAB Proposal 2: SCC Study of Signaling Technology and CAB Proposal 3: Pilot Program for Demand-Side Management.

CAB Proposal 2 concerned a proposed study of the various existing price signaling technologies to evaluate: (1) the potential technologies for such a signaling system, (2) the probability and timing that such a system will emerge on its own out of the deregulation process, (3) the impact that such a system might have on providing the critical mass justifying the emergence of products that use such a signal, and (4) the cost effectiveness of having such a system provided centrally. Staff indicated issues related to price signals could be considered within the framework of its competitive metering work group. CAB recommended that the LTTF direct the Commission by letter to include elements of this study in the development of its rules for competitive metering. The LTTF has not implemented this recommendation at the current time.

Upon further focus and reflection, however, it has become apparent to Staff that CAB Proposal 2 is focused on a study and evaluation of communication technologies, well beyond the focus of the competitive metering work group. Given this technical context, Staff believes it would be more appropriate that an independent research institute or national industry experts initiate, coordinate, and

conduct such a study. Staff believes this approach is consistent with the Commission's comments relative to a demand controller study[4] discussed in its August 30, 2002 report on the status of competition in Virginia. An appropriate study group might include participants from the energy management, meter manufacturing, competitive energy provider, and communication technology industries. The results of such a study could be provided to the CAB, LTTF, and the Staff.

CAB Proposal 3 recommended that the LTTF, by letter, strongly encourage the Commission and utilities to voluntarily develop time-of-use and demand side management programs. Although the LTTF has not yet issued a letter, Commission orders, including the August 19, 2002 order, have included specific language encouraging parties to voluntarily develop new or expanded time-of-use programs in Virginia.

Staff Conclusions and Recommendations

Regarding the implementation of competitive metering for large customers, Staff believes development of rules for customer ownership to be the next logical step of a measured approach to competitive metering. Financial meter ownership (Option 2) might be viewed as a gateway to the evaluation of third-party ownership and additional elements of competitive metering. Ownership provides choices to those customers who want to own their existing meters or want to

[4] The demand controller study relates to a proposal by Energy Consultants to undertake a pilot program to quantify the effectiveness of demand controllers on reducing system level demand.

purchase a different meter in order to obtain new meter functions that the local distribution companies are either unable or unwilling to provide within their existing inventory of meters.

Staff acknowledges that restricting the universe of meters available for ownership to a utility's existing inventory of certified meters would minimize the cost and the time to obtain the meter as well as complications associated with incompatibilities of non-certified meters. In addition, customers may very likely be able to acquire additional desired meter functions simply by requesting the utility to reprogram their existing meters. Nevertheless, Staff believes that customers, for whatever reason, should be given the opportunity to request meters not normally stocked in the utility's inventory, as long as the customer is willing to pay any net incremental costs and as long as the meter is compatible with the utility's billing and data communication systems.

While requiring a utility to install a non-certified (but compatible) meter may create some difficulties and create additional costs, Staff does not believe the requirement to be unreasonable. Staff is aware that with certain non-compatible meters, utilities could face essentially insurmountable challenges related to meter reading and data management as a result of the proprietary communications protocols. However, many new meters support open standards, which let utilities use a common industry vocabulary for meter data communications. Beginning in 1996, the American National Standards Institute ("ANSI"), Automatic Meter Reading Association ("AMRA"), and Measurement Canada joined forces to

publish standards for meter data storage and communications protocols. By supporting the new standards, some new generation meters give customers far more flexibility than is possible with other electricity meters. Meters supporting the standards promise simpler interfaces, faster implementation of new features, and lower operational costs.

The Staff recognizes that offering customers meter ownership choices might require utilities to initiate certain tedious and labor intensive changes to their metering systems. For example, utilities probably will need to input a new data field or "flag" in the computer programs and data bases to indicate whether or not the customer owns a meter. Offering meter ownership will also require the utility to determine net incremental costs associated with meter ownership and to calculate a billing credit for the meter asset. These issues, in part, will determine when any rules relative to meter ownership could become effective.

In conclusion, upon consideration of the nine statutory implementation criteria and the input of the competitive metering work group, the Staff recommends that the Commission direct the Staff, with the assistance of the competitive metering work group, to propose rules regarding financial ownership of meters by large industrial and large commercial customers (Option 2) by December 16, 2002. In addition, Staff recommends that the work group direct its focus on monitoring market developments in metering (Option 4) as a precursor to the implementation of any additional elements of competitive metering for large

customers. The Staff expects to report on such developments approximately one year after the implementation of rules for meter ownership.

With respect to competitive metering for residential and small business customers, Staff believes it is premature to make a recommendation as to whether or not it is in the public interest. The Staff recommends the competitive metering work group and other interested parties be invited to submit comments on this issue in response to this report. Respondents should be encouraged to formulate comments in the context of the nine statutory implementation criteria. Respondents also should be invited to comment on the relative viability and effectiveness of a competitive metering approach versus a regulatory approach for advancing the implementation of interval or advanced metering for small customers.

APPENDIX A

SECTIONS 56-581.1 E AND 56-581.1 F OF THE CODE OF VIRGINIA

SECTION 56-581.1 E OF THE CODE OF VIRGINIA

The Commission shall implement the provision of competitive metering services by licensed providers for large industrial and large commercial customers of investor-owned distributors on January 1, 2002, and may approve such services for residential and small business customers of investor-owned distributors on or after January 1, 2003, as determined to be in the public interest by the Commission. Such implementation and approvals shall:

1. Be consistent with the goal of facilitating the development of effective competition in electric service for all customer classes;
2. Take into account the readiness of customers and suppliers to buy and sell such services;
3. Take into account the technological feasibility of furnishing any such services on a competitive basis;
4. Take into account whether reasonable steps have been or will be taken to educate and prepare customers for the implementation of competition for any such services;
5. Not jeopardize the safety, reliability or quality of electric service;
6. Consider the degree of control exerted over utility operations by utility customers;
7. Not adversely affect the ability of an incumbent electric utility authorized or obligated to provide electric service to customers who do not buy such services from competitors to provide electric service to such customers at reasonable rates;
8. Give due consideration to the potential effects of such determinations on utility tax collection by state and local governments in the Commonwealth; and
9. Ensure the technical and administrative readiness of a distributor to coordinate and facilitate the provision of competitive metering services for its customers.

Upon the reasonable request of a distributor, the Commission shall delay the provision of competitive metering service in such distributor's service territory until January 1, 2003, for large industrial and large commercial customers, and after January 1, 2004, for residential and small business customers.

SECTION 56-581.1 F OF THE CODE OF VIRGINIA

The Commission shall promulgate such rules and regulations as may be necessary to implement the authorization related to competitive metering services provided for in subsection E. Such rules and regulations shall include provisions regarding the licensing of persons seeking to sell, offering to sell, or selling competitive metering services, pursuant to the licensure requirements of § 56-587.

APPENDIX B

ORGANIZATIONS REPRESENTED ON THE STAFF WORK GROUP

Organization Name

Division of Consumer Counsel, Office of the Attorney General
ADMMicro
Allegheny Energy Supply
Allegheny Power
Old Dominion Power Company
Schlumberger Resource Management Services North America
The New Power Company
Olameter, Inc.
Christian & Barton
Williams, Mullen, Clark & Dobbins, P.C.
Dominion Virginia Power
American Electric Power
AES NewEnergy, Inc.
Utiliread/Viterra Energy Services
Energy Consultants, Inc.
Conectiv
NCS Pearson
Virginia, Maryland & Delaware Association of Electric Cooperatives
Virginia Natural Gas, Inc./AGL Resources
Peregrine Energy
Northern Virginia Electric Cooperative
UHR Technologies