ANNUAL REPORT TO THE

GOVERNOR AND GENERAL ASSEMBLY

ENERGY CONSERVATION EFFORTS OF

VIRGINIA'S INVESTOR-OWNED PUBLIC UTILITIES

IN 2009

Submitted by the
Department of Mines, Minerals and Energy
Division of Energy

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Introduction

As outlined in § 67-202.1 of the Code of Virginia, each investor-owned public utility (IOU) that provides electric service in the Commonwealth is required to prepare an annual report delineating its efforts to conserve energy, including but not limited to its implementation of customer demand-side management (DSM) programs and efforts by the utility to improve energy efficiency and conservation within its internal operations, pursuant to § 56-235.1 of the Code. The annual reports are to be submitted by November 1 of each year to the Division of Energy of the Department of Mines, Minerals and Energy (DMME). The Division is charged with compiling the utilities' reports and submitting the compilation to the Governor and the General Assembly.

For the year 2009, reports were received from Dominion Virginia Power, Appalachian Power Company (APCo), the Potomac Edison Company (PEC) d/b/a Allegheny Power, and Kentucky Utilities Company d/b/a Old Dominion Power Company. The following is a summary of their energy conservation efforts during the past year. A copy of each utility's full report is appended to this summary.

Dominion Virginia Power

Dominion Virginia Power currently offers several DSM programs; the Standby Generation (SG) Tariff, the Curtailable Service (CS) Tariff and the CFL Price Reduction Program. The SG service tariff provides a direct means of implementing load reduction during peak periods by transferring load normally served by the company to a participant's standby generator. The CS tariff requires participants to reduce their electric demand, when requested by the company, in return for a rate reduction credit. Participants commit to curtailment upon a 30-minute notice in order to receive the rate credit and are required to reduce load to a firm service level. And in partnership with Honeywell and the Home Depot, the company provides an instant discount of $1.50 on single-packs and $3.00 on multi-packs of ENERGY STAR qualified Compact Fluorescent Lights (CFLs) purchased at select Home Depot stores in the company's Virginia service territory. As of October 1, 2009, the company has sold more than 3.6 million CFL bulbs through participating Home Depot stores since the program began in October 2007. The program will run through the end of 2009.

Dominion has also been involved in nine pilot programs designed not only to reduce Megawatt-hour (MWh) sales and peak demand, but to gain valuable operational information and data on customer usage and customer acceptance of demand-side programs. Seven of the programs are now complete; the Direct Load Control (DLC) – Outdoor Air-Conditioning Control Device Pilot, the Programmable Thermostats – Indoor Air-Conditioning Control Device Pilot, the Standard Residential In-Home Energy Audits Pilot, the ENERGY STAR Qualified Homes Energy Audits Pilot, the Energy Efficiency Welcome Kits Pilot, the Power Cost™ Monitor Pilot, and the Small Commercial On-Site Energy Audits Pilot. Final reports for these pilots were filed in March 2009 with the State Corporation Commission (SCC).

The remaining two pilot programs approved to continue through 2009 are the Programmable Thermostat with Advanced Metering Infrastructure (AMI) and Critical Peak Pricing (CPP) Pilot and the Distributed Generation (DG) Pilot. The Programmable Thermostats with AMI and CPP Pilot allows the company to cycle a participants' central air-conditioning system on and off and shift the temperature setting up or down during peak periods. The DG Pilot has agreements with customers for backup generators to be installed at participants' facilities that are to be used as replacement power to curtailed facilities at utility-specified times. A minimum of a 30-minute notice is provided to participants for start and end times of load curtailment events, which the company may call for up to 200 hours per year. The company hired an outside contractor, PowerSecure™, to install, operate, and maintain the generators at participating customer facilities during such events.

July 2009, Dominion filed a portfolio of 12 DSM proposed programs with the SCC including both energy efficiency and peak-shaving programs. The proposed programs are the Air Conditioner Cycling Program, the Commercial Distributed Generation (DG) Program, the Curtailment Services (CS) Program, the Residential Lighting Program, the Low Income Program, the ENERGY STAR New Homes Program, the Residential Heat Pump Tune-Up Program, the Residential Refrigerator Turn-In Program, the Heat Pump Upgrade Program, the Commercial HVAC Upgrade Program, the Voltage Conservation program, and the Commercial Lighting Program.

June, 2009, Dominion unveiled Charlottesville as one of the first cities in the nation to benefit from "smart grid" or AMI technologies and applications. AMI is a technology comprised of meters and collection devices equipped with advanced two-way communications between the company and its meters. The communications allow for collection and distribution of information that enables utilities to provide DSM programs. SmartGrid Charlottesville will make the delivery of electricity more efficient and less costly while improving customer service.

Future programs for Dominion include the In-Home Energy Display Program, the Residential Duct Testing and Sealing Program, the Residential Energy Audit Program, the Commercial Duct Testing and Sealing Program, the Commercial Energy Audit Program, and the Commercial HVAC Tune-UP Program.

Dominion also has numerous consumer education programs including the Every Day program, the Customer Connection Newsletter, news releases, outreach seminars, the Online Energy Calculator, CFL education, the Energy Conservation Blog, Energy Savings Tips and Information, television spots, YouTube videos, trade shows, exhibits and speaking engagements.

Along with other affiliates, the company has shown environmental stewardship through the Dominion Foundation, which awards grants to schools in order to support energy conservation and recycling initiatives as well as support for ongoing research into alternative energy sources, energy conservation, and cleaner ways to use traditional resources. The company donated $400,000 in AMI equipment and started a $45,000

fellowship fund to help graduate students in the College of Engineering at Virginia Polytechnic Institute and State University in Blacksburg. The program will help students gain experience using state-of-the-art technology to help improve the country's power infrastructure. Also, with funding from the company, fifth graders put energy savings tips into action, saving Greenbrier Intermediate School in Chesapeake more than $10,000 on its power bill.

The company received the 2009 ENERGY STAR Leadership in Housing Award from the U.S. Environmental Protection Agency. The award recognizes the company's efforts to promote energy-efficient construction and environmental protection by sponsoring its ENERGY STAR Qualified Homes Energy Audits Pilot.

The company has initiated numerous internal efficiency and conservation initiatives that include high efficiency HVAC systems, modifying existing lamps, and utilizing management systems that will shut down HVAC systems, lighting, and computers during off hours. Employees have also volunteered many hours with ElderHomes assisting several low-income families in the Richmond area with insulation and weatherization, window replacement and light bulb conversion.

Appalachian Power Company

American Electric Power (AEP) and Appalachian Power Company (APCo) are committed to energy efficiency, both within our own internal operations, and externally by helping our customers use electricity in a wise and efficient manner.

AEP has established a self-imposed goal of reducing its demand by 1,000 MW and reducing energy consumption by 2,250 GWh annually by the end of 2012. APCo will be an active participant in meeting this goal and its level of participation will depend upon the outcome of various policy matters which are currently before the SCC. In addition, as part of AEP's *gridSMART*^{SM} initiative, the company has an internal goal of installing smart meters in all its jurisdictions by the end of 2015.

APCo provides various time-of-day options to allow customers to shift usage to lower cost periods. Based on a change of lifestyle or, in the case of a non-residential customer, a change or shift in mode of operation, these tariff schedules provide the customer with an opportunity to shift or reduce peak demand on the Company's system, save money and encourage additional efficiencies. Such programs include; load management water heating, off-peak excess demand provisions, and time of day provisions.

APCo has filed with the SCC an application to implement Demand Response Riders for its larger retail electric customers that would provide payment to customers, with agreements, who reduce their demand consumption from the company during times of emergency conditions or when prices are high within the PJM market.

In 2008, APCo implemented an ongoing consumer education program on energy conservation entitled "Watt Why & How." The program is geared toward educating

community leaders and citizens on what APCo is doing to meet the growing demand for electricity, changes in electric rates, and how people can save money on their electric bills. www.WattWhyandHow.com

In 2009 the AEP Foundation, in conjunction with the National Energy Education Development (NEED) organization, completed its "Change-A-Light (CAL) Energy Efficiency Education Program." The AEP Foundation provided $355,000 to fund the program. NEED staff conducted training workshops on the CAL program and energy conservation for K-12 educators in the AEP System. AEP estimates that this program reached 2.5 million K-12 students in its service territory. This effort also provided over 36,000 CFL bulbs to children in over 600 schools throughout APCo's service territory. The bulb distribution was complete by the end of the 2008/2009 school year.

Improved efficiencies in internal operations were implemented in 2007. These efforts include, but are not limited to, installing occupancy sensors, programmable thermostats, lighting upgrades, HVAC/chiller replacements and other energy efficiency measures. When compared to usage during calendar year 2007 as a baseline, energy use in APCo's Virginia facilities, through September 2009, has been reduced approximately 3.25 million kWh's, representing a decrease of nearly 18.7%.

APCo received approval from the SCC for its Renewable Portfolio Standard in August 2008. APCo proposes meeting Virginia's renewable energy portfolio goals with a combination of run-off-river hydroelectric energy from existing facilities, new purchases of wind energy, and any carry forward credits APCo obtains for exceeding target threshold amounts.

AEP has pioneered the deployment of large-scale energy storage in the U.S., using Sodium-Sulfur battery (NaS) technology. The first NaS installation was a 1 MW battery in a substation near Charleston, WV. AEP also deployed two additional battery installations in 2008. A third installation is being considered that will be integrated with wind generation to demonstrate the ability to store energy from wind, and then use the stored energy when customers need it.

Finally, APCo is offering Virginia retail customers the opportunity to support the renewable generation of energy by voluntarily participating with a new green pricing option. The renewable power rider allows customers to support the value of Renewable Energy Certificates (RECs) which will be acquired from hydro-generated sources.

Allegheny Power

Potomac Edison Company d/b/a/ Allegheny Power is replacing mercury vapor streetlights in conjunction with its maintenance schedules. Newer types of high-intensity discharge (HID) lights are more energy efficient. A 100 watt high-pressure sodium light provides 16% more light and uses 43% less energy than its mercury vapor counterpart. The analysis of replacing the mercury vapor lights in its Virginia service territory indicates a cumulative savings of over 132 megawatt hours (MWhs).

The company also has a Potomac Edison Higher Efficiency Distribution Transformer Purchase Program that involves the purchase and distribution of transformers meeting the United States Department of Energy mandated minimum efficiency standards and including a life-cycle cost evaluation. The company anticipates purchasing the new high efficiency designs starting in the forth quarter of 2009. The total energy savings for the forth quarter of 2009 through 2015 is projected to be 1,706 MWhs or an average of 284 MWhs annually.

Potomac Edison offers the Interruptible Load Response (ILR) demand response program through PJM. These customers must have the ability to reduce metered load when an emergency event is called by PJM. ILR customers receive capacity and energy payments as part of the Reliability Pricing Model (RPM) capacity market. To date, the ILR programs have not been called for in the Allegheny Power zone.

Similarly, Potomac Edison offers the Economic Load Response Program (ELRP) demand response program through PJM. ELRP is a voluntary peak load reduction plan that offers financial compensation to customers who can reduce their power consumption during periods of high demand or prices using on-site generation or reducing load. In return, the customer receives a percentage of the wholesale cost of power. Participation and impact on the load forecast is unpredictable as customers may choose to not participate during every event.

Finally, Potomac Edison is working to evolve its transmission and distribution system into an intelligent network for electricity delivery through several smart grid programs. A smart grid creates an intelligent network for two-way communications and control of utility devices, including meters, sensors, residential devices and other equipment, regardless of vendor or manufacturer. Use of smart grid technology in the Virginia service territory will be possible once the technology has been proven in other jurisdictions. Potomac Edison is currently pursuing numerous such programs.

Old Dominion Power Company (ODP)

The company continues to encourage customers to conserve energy by providing energy efficiency tips in the Power Source newsletters that are included in the monthly bills. Energy efficiency tips are made available to customers at various public gatherings and community festivals. The customers can also access energy efficiency/smart saver tips at the company's website. The Home Energy Calculator is a tool available to customers on the website. It is designed to help a customer determine where potential energy savings exist.

Although ODP does not currently deploy demand-side management portfolios, Kentucky Utilities Company (KU) and Louisville Gas and Electric Company (LG&E) have had significant demand-side management and energy efficiency programs in place in Kentucky for a number of years. Those programs have proven to be successful and have rebounded to the benefit not only of KU's and LG&E's customers, but also to the benefit

of ODP's customers by avoiding the need for over 100 MW of capacity. This effectively avoids the need to purchase a gas-fired combustion turbine peaking unit, a capital savings of over $100 million, helping to avoid the need for additional rate increases in all of the utilities' operating jurisdictions.

The Norton office has replaced windows and lighting with energy efficient options. In addition, the company is replacing the carpeting in the offices with recycled products and replacing appliances with those carrying the Energy Star designation. The company continues the effort of having all buildings achieve the Energy Star certification. Certain fleet vehicles have been replaced with hybrid vehicles to increase the gas mileage, thus reducing the amount of fuel used.

Finally, ODP, KU, and LG&E have initiated the "Environmental Champions Program" which encourages employees to conserve energy and recycle waste at work.