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Pennsylvania's Energy Efficiency and Conservation Program

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Special to the Legal

In the past several decades, federal and state governments have searched for the optimal mechanisms to reduce pollutants produced during electric power generation. Technology-based limits forcing the use of enhanced pollution-control equipment, market mechanisms such as the federal acid rain or regional greenhouse gas cap and trade programs and incentives and mandates to deploy alternative energy sources have been adopted. Although these approaches have reduced emissions, electric power facilities remain the major source of toxic air emissions in the United States. Continued increases in energy demand will lead to construction of additional facilities, only some of which will utilize alternative fuels.

Meeting the enhanced demand for electricity has come at considerable financial as well as environmental expense. Peak demand, particularly in congested markets, contributes to higher electricity rates and challenges the ability of existing infrastructure to supply adequate and reliable power. Pennsylvania and other states have imposed temporary rate caps as they struggle to find long-term solutions to bringing reliable power to businesses and homes at the lowest cost. As Pennsylvania's rate caps expire over the next two years, the resulting rate increases will have political, economic and social consequences. The impending price increases, which Public Utility Commission Vice Chairman Tyrone J. Christy has described as "rate shock," have prompted Pennsylvania to examine regulatory alternatives that have implications for the power industry, electricity consumers and the environment.



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Pennsylvania has recognized the importance of energy conservation as a weapon in its arsenal to fight environmental harms, transmission congestion and rising prices. The best way to avoid the cost of new power plants and their harmful effects is to eliminate new construction entirely. If the growth of new electric generation is to be curtailed without creating adverse economic consequences, existing power supplies must be used more efficiently.

ACT 129

In Act 129 of 2008, effective Nov. 14, 2008, the Pennsylvania General Assembly adopted amendments to the Public Utility Code to promote "adequate, reliable, affordable, efficient and environmentally sustainable electric service at the least cost, taking into account any benefits of price stability over time and the impact on the environment." Central to this article, Act 129 requires the adoption of energy efficiency and conservation measures to reduce electric price instability, promote economic growth and ensure affordable and available electric service. Other portions of Act 129, not addressed here, expand the definition of alternative energy under the Alternative Energy Portfolio Standards Act, provide for smart meter technology and time of use rates and authorize

an assessment of the viability of creating a carbon dioxide sequestration network.

Act 129 imposes an ambitious schedule to develop a program to achieve electricity consumption reductions. The act instructed the Public Utility Commission, or PUC, to develop an Energy Efficiency and Conservation Program by Jan. 15. The EE&C Program must require all electric distribution companies, or EDCs, with at least 100,000 customers to adopt a plan to reduce energy demand and consumption within their service territories. The plans must reduce the total annual weather-normalized consumption of retail customers by at least 1 percent of the expected load by May 31, 2011, and by 3 percent by May 31, 2013. In addition, peak demand must be reduced by at least 4.5 percent of the EDC's annual system peak demand in the 100 hours of highest demand measured against the company's peak demand for June 1, 2007, through May 31, 2008. The act imposes penalties for an EDC's failure to file a plan or to achieve the required consumption reductions.

The plans developed under the EE&C programs will be important to business and residential customers because the ability to enhance efficiency and decrease demand depends on customer actions. In some cases, investments by customers in technology and materials or in flexible schedules for energy use may be necessary to achieve the EE&C plan's goals. For example, Act 129 mentions solar panels, energy efficient windows and doors, energy efficient lighting, geothermal and energy efficient heating and cooling, reflective roof coatings and energy efficient appliances among the measures that retail customers may employ. PUC Chairman James H. Cawley and PUC Commissioner Wayne E. Gardner have called

upon EDCs to support, design and implement a loan program to assist customers in making capital investments to achieve efficiency gains, but these efforts are at an early stage. In contrast, the PUC regulatory process to implement Act 129 is well under way.

PUC IMPLEMENTATION ORDER

On Jan. 15, following a period of months for stakeholder dialogue, public comment and hearings, the PUC issued an implementation order to establish the EE&C Program. The order requires each EDC serving at least 100,000 customers to provide the PUC with a forecast of its consumption for the period of June 1, 2009, through May 31, 2010. This forecast will provide the baseline against which annual consumption reductions will be measured. EDCs must likewise submit their historic peak load data for the period June 1, 2007, through May 31, 2008, in order to establish a baseline for measuring whether the required 4.5 percent peak demand reduction is being met.

The order requires EDCs to file their EE&C plans by July 1, 2009. The plans must contain the elements set forth in 66 Pa. C.S.A. § 2806.1(b) (1)(i), which include, among other things, specific proposals to implement EE&C measures to achieve or exceed the required reductions. As provided in Act 129, a minimum of 10 percent of the required reductions must be obtained from governmental and nonprofit entities. The plans must also include the approved consumption forecast, a weather adjustment calculation, a description of the method for monitoring and verifying plan results, a budget for designing and implementing the plans and tariff and cost recovery mechanisms. The plans must also delineate how an annual independent evaluation of cost-effectiveness will be accomplished.

The process for plan review and approval set forth in the order provides ample opportunity for public involvement. EDCs must engage in informal discussions with statutory advocates and interested stakeholders during the pre-filing development of the plans. The PUC will publish notice of each plan and refer each plan to an administrative law judge for discovery and hearing. The commission at a public meeting will ultimately either approve the plan or reject the plan in whole or in part, provide a detailed rationale for rejection and require revisions.

As mandated by the act, each EDC must file an annual report of the results of its plan including expenses, measurement of energy savings and cost-effectiveness. The PUC will permit EDCs, interested stakeholders and statutory advocates to propose plan changes in conjunction

with the annual report filing. The commission will determine, in light of any proposed changes to the plan, whether hearings before an administrative law judge are needed.

Because the energy efficiency program is intended to mitigate the rate increases that are expected absent the EE&C plans, the analysis of the cost and benefit of each plan is a significant requirement. In the order, the commission stated its intent to compare costs and benefits by utilizing the total resource cost test established by California. The PUC cautioned, however, that pursuant to Act 129 only monetary costs and not environmental or societal benefits are properly considered. Act 129 expressly requires comparing the net present value of the avoided monetary cost of supplying electricity with the net present value of the monetary cost of energy efficiency conservation measures. (See 66 Pa. C.S.A. § 2806.1(m).)

In its order, the commission clarified how the annual consumption reductions mandated by Act 129 will be measured. Each EDC is required to reduce its total annual weather-normalized consumption of its retail customers by 1 percent. Under an absolute reduction approach, EDCs would be required to demonstrate an actual decline in consumption. In contrast, under a savings approach, EDCs must only show that their plans reduced consumption to levels below those forecasted. The PUC endorsed the savings approach and rejected the absolute reduction approach because the latter would penalize economic development and be more difficult to administer.

The PUC also considered two methods for measuring whether the required 4.5 percent reduction in peak consumption is achieved. Under the “demonstrated capability” approach, an EDC would only show that it is capable of reducing peak demand. It would not be required to actually reduce peak demand where the reduction would not affect the wholesale energy market. In contrast, the savings approach would require a reduction in peak consumption below forecasted levels. The PUC adopted the same savings approach as utilized for annual consumption reduction, noting that such reductions would create savings for consumers, and make administration easier. The PUC also determined that measures that reduce both annual and peak demand can be used to meet both targets, and that peak demand should be assessed only for the summer months when energy prices are the highest.

In addition to examining the EE&C plans for their ability to achieve demand and consumption reductions, the PUC will also examine how

well the plans work in practice. Each EDC must file with the PUC within 45 days after May 31, 2011, (the 1 percent reduction target date) and after May 31, 2013, (the 3 percent target date) information documenting their consumption reductions. Total savings and savings by class of customer must be provided. The PUC will use this information in its cost benefit analysis.

In accordance with Act 129, the PUC will develop a registry of approved conservation service providers, or CSPs, that meet the experience and other criteria established by the PUC. A separate stakeholder process is under way to determine the qualification requirements. The act requires that each EDC enter into a competitively bid contract with a CSP to implement all or part of the plan. Consequently, the order instructs the EDC to submit its request for proposal procedures and its standard contract to the PUC for review by March 1, and to include at least one contract in the plan to be filed by July 1. The PUC will review proposed CSP contracts before they are executed. Among the criteria for review are the nature and type of services to be performed and assurance that the CSP’s work will meet the requirement for reduction in demand and consumption.

The order incorporates the Act 129 provision limiting the costs of the plan to 2 percent of the EDC’s total annual revenue as of Dec. 31, 2006, excluding low-income usage reduction programs. EDCs must recover from their customers, through a reconcilable adjustment clause, all reasonable and prudent costs incurred in the provision or management of the plan. The order requires EDCs to provide a careful estimate of the costs of implementing their plan, including capital and expense items and administrative costs. Costs of measures must be allocated to the customer classes that benefit from the measures.

Act 129 and the order represent a new emphasis on energy efficiency and conservation as a way of reducing energy demand and consumption. If successful, the EE&C program will mitigate the expected electric rate increases that will burden businesses and homeowners as they are introduced over the next two years. By diminishing the need to construct new electric power facilities, Act 129 and the order will also mitigate the emissions and discharges of pollutants. EE&C plans may also promote the green economy by substituting alternative energy sources for conventional power plants. Enhanced energy efficiency and conservation do not alone solve the problems of higher electric rates and harmful environmental effects, but they constitute an important part of the solution. •