
**REPORT ON CONSERVATION, ENERGY EFFICIENCY,
DEMAND SIDE RESPONSE AND
ADVANCED METERING INFRASTRUCTURE**

Prepared by:

Demand Side Response Working Group
Docket M-00061984

Dated: June 6, 2007

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I. EXECUTIVE SUMMARY

On September 28, 2006, the Pennsylvania Public Utility Commission voted to initiate an investigation of issues relating to demand side response, energy efficiency, conservation and advanced metering infrastructure. The investigation was commenced in response to significant increases in fuel prices and the associated impact on utility rates. The investigation was to be conducted by Commission staff with the assistance of the Demand Side Response Working Group. The investigation was to conclude by May 15, 2007, at which time policy recommendations would be provided to the Commission. Commission staff was to identify areas of consensus within the working group, and to provide specific recommendations on matters where agreement was not obtained.

Commission staff, at the direction of the Director of Operations, determined the schedule, scope and structure of the investigation. Stakeholders were organized into subgroups and directed to gather information on a range of topics, including consumer education, ratemaking mechanisms, advanced metering, time-of-use rates, and energy efficiency and conservation programs. The Commission also hosted several conferences at which well qualified speakers addressed the working group on the issues subject to this investigation. The information collected by the working group has been made available to the public on the Commission's website.

After completing its research, the working group was surveyed by Commission staff to determine the level of consensus on various issues. This survey was done as part of the preparation of this report, and a draft version was shared with stakeholders. Stakeholder comments were solicited prior to the preparation of the final version of this document.

Generally, the stakeholders acknowledge that ratepayers might benefit from the implementation of new policies involving demand side response, energy efficiency and conservation. The Commission has gathered sufficient information to begin considering the adoption of new, demand side response, energy efficiency and conservation programs for energy utilities. The Commission has the authority to require energy utilities to submit proposals for its consideration, and to provide for the full recovery of all reasonable and prudently incurred costs. Programs should be available to all rate classes, and customer participation should be voluntary.

However, there was disagreement on many of the specific details associated with the implementation of new policies. For example, stakeholders differed on the objectives, management, and cost-recovery associated with new programs. Accordingly, Commission staff will be providing separate policy recommendations on a range of issues. The following sections of this report review the issues addressed by the investigation, and provide a sampling of stakeholder comments on these issues. Areas of relative consensus and disagreement are noted where they exist.

II. HISTORY AND SCOPE OF THE INVESTIGATION

At the Public Meeting of September 28, 2006, the Commission adopted a motion to initiate this investigation. *Investigation of Conservation, Energy Efficiency Activities, and Demand Side Response by Energy Utilities and Ratemaking Mechanisms to Promote Such Efforts*, Docket No. M-00061984 (Investigation Order entered October 11, 2006) (“Investigation Order”). The Director of Operations was instructed to convene the Demand Side Response Working Group (“DSR Working Group”) to conduct an investigation of:

(a) Energy utilities’ current efforts to assist their customers to reduce usage, increase energy efficiency, and implement demand side response programs (including implementation of time-based rates), and whether additional cost effective and reasonable steps can be taken to increase those efforts materially (and, if so, the nature of those activities and the costs that the utility or other entity and customers would incur to implement them); and

(b) Whether Advanced Metering Infrastructure should be developed by Pennsylvania utilities, and, if so, the timeline and standards that should be established for the implementation of these systems for the various customer classes and the methods of sharing this information with customers, competitive energy suppliers, and other customer representatives.

(c) Whether revenue decoupling or other similar mechanisms are necessary or appropriate to assure that energy utilities, and in particular natural gas utilities, aggressively encourage and implement conservation and energy efficiency in their service territories, and whether such mechanisms are fair to customers and otherwise in the public interest. At a minimum, the following legal and policy questions should be addressed: whether such mechanisms are legally permissible in Pennsylvania; whether such mechanisms are actually necessary in order to obtain the participation of energy utilities in conservation promotion activities; and whether the costs of implementing such mechanisms outweigh any benefits, and, if the benefits are greater, what type of decoupling approach is optimal.

Investigation Order, pgs. 10-11. The Director was to assign staff to this investigation, schedule meetings of the DSR Working Group, solicit comments on relevant issues, and provide recommendations to the Commission where consensus was attained. Commission staff was to provide policy recommendations to the Commission where consensus was not achieved.¹ This investigation was to conclude by May 15, 2007.

¹ DSR Working Group participants generally did not offer any comments to this portion of the February 21, 2007 outline. However, the UGI Distribution Companies stated, based on its interpretation of the Investigation Order, that policy recommendations should be limited to electric distribution companies. The Commission should not make any findings regarding natural gas distribution companies as a consequence of this investigation.

Subsequent to issuance of the Investigation Order, the Director assigned Commission staff to this proceeding. A DSR Working Group electronic mail service list was established to allow for the efficient communication between Commission staff and DSR Working Group participants. Participants included representatives from other state agencies, electric and natural gas distribution companies, non-profit organizations with an interest in energy issues, energy services companies, and Pennsylvania located business and industry.

The first meeting of the DSR Working Group was held on November 16, 2006, at the Commission's Harrisburg offices.² Participants exchanged views on a variety of topics, including the objectives, timeline, and structure of the investigation. Some electric and natural gas distribution company representatives offered updates on DSR, energy efficiency and conservation programs available to their retail customers.

At the outset of the investigation, Commission staff determined that it would be appropriate to form a separate subgroup to address ratemaking issues, particularly revenue decoupling. The Ratemaking subgroup was authorized to meet on a schedule separate from the DSR Working Group. This Ratemaking subgroup also held its first meeting on November 16, 2006. Participants discussed the Commission's directives regarding the consideration of revenue decoupling. It was determined that subgroup would benefit from hearing from persons knowledgeable about revenue decoupling. Four presentations on the topic of revenue decoupling were made to the Ratemaking subgroup on December 8, 2006.

Commission staff released its plan for the conduct of the overall investigation on December 7, 2006. First, the plan identified a schedule, objective, and structure of the investigation. Second, the plan provided that three additional subgroups would be formed for the purposes of collecting information: Programs, Metering, and Consumer Education. Finally, the plan reserved January 19, 2007 for panel discussions on the topics subject to investigation. Stakeholders were asked to nominate panelists who could offer the DSR Working Group insight on the successful implementation of DSR, energy efficiency, and conservation programs and advanced metering initiatives.

After these information gathering activities were completed, Commission staff would survey the DSR Working Group to ascertain the level of consensus regarding policy recommendations. Commission staff would then circulate a draft report to the DSR Working Group for comments from individual stakeholders. After comments were addressed, a final report would be provided to the Commission that identified the information collected and noted the areas of policy consensus. Consistent with the directive of the Investigation Order, Commission staff would provide recommendations on those topics where consensus was not achieved.

² http://www.Commission.state.pa.us/electric/docs/DSRWG_Meeting_Recap111606.doc

Consistent with this plan, the DSR Working Group and its subgroups met as follows:

- The subgroups met on December 19, 2006. Commission staff and participants identified metering, programs, and consumer education issues for additional study. Stakeholders agreed to provide information to Commission staff on these topics by early January.
- The Commission hosted a panel discussion in a day-long meeting held January 19, 2007. Presentations were made by individuals from fourteen different organizations.
- The Ratemaking subgroup had a conference call on January 23, 2007 to review additional information on revenue decoupling.
- The Ratemaking subgroup had a conference call on January 30, 2007.
- On February 9, 2007, the Commission organized a conference call to hear from parties unable to participate in the January 19, 2007 panel discussions.
- On February 23, 2007, the DSR WG met to discuss an outline of the working group report prepared by Commission staff. The Ratemaking subgroup met separately that afternoon to review draft proposals on revenue decoupling.
- On March 9, 2007, stakeholders provided comments to the report outline.³
- On March 22, 2007, the Ratemaking subgroup met to review a Commission staff strawman on revenue decoupling.
- On April 13, 2007, a draft report was released to the DSR Working Group for comment.
- Comments to the draft report were provided by April 30, 2007.
- A revised draft was distributed to the DSR Working Group on May 25, 2007 for final comments.

III. SUMMARY OF INFORMATION COLLECTED

Commission staff and stakeholders collected and reviewed a significant amount of information during the course of the investigation. This included data about existing programs in Pennsylvania, the details of programs in other states, and reports and studies issued on the matters subject to this investigation. This information is provided primarily for reference purposes, in order to reflect the quantity of issues involved as well as sources for additional consideration. The DSR Working Group does not necessarily support all the

³ Comments to the outline and/or draft report were provided by Allegheny Power (“Allegheny”), Duquesne Light Company (“Duquesne”), Citizens for Pennsylvania’s Future (“PennFuture”), PJM Interconnection, LLC (“PJM”), PECO Energy Company (“PECO”), Pennsylvania Coalition for Demand Resources (“PCDR”), the PPL Electric Utilities Corporation (“PPL”), the Office of Consumer Advocate (“OCA”), the Office of Small Business Advocate (“OSBA”), the Pennsylvania Department of Environmental Protection (“DEP”), Wal-Mart Stores East LP (“Wal-Mart”), E-Meter Strategic Consulting (“E-Meter”), the PA Utility Law Project (“PULP”), UGI Distribution Companies (“UGI”), the Industrial Energy Consumers of Pennsylvania (“IECPA”), the Energy Association of Pennsylvania (“EAP”), Reliant Energy, EnerNOC, Inc. (EnerNOC), Comverge, Inc., and the Pennsylvania Power Company, Metropolitan Edison Company, and the Pennsylvania Electric Company (collectively the “FirstEnergy Companies”). These comments are available at http://www.puc.state.pa.us/electric/DSRWG_draft_outline_com.aspx; www.puc.state.pa.us/electric/dsrwg_draft_report_com.aspx.

findings or conclusions presented in these reports and documents. A summary of the information gathered follows.

A. Existing Pennsylvania Programs and Level of AMI Deployment

At the beginning of the investigation, Commission staff requested that electric distribution companies (“EDCs”) provide information on existing programs for each customer class. This was done by updating documents prepared as part of the DSR Working Group’s 2004 survey of existing programs and metering. Additionally, information was submitted by the EDCs on the current status of Advanced Metering Infrastructure (“AMI”) deployment, infrastructure requirements, future plans and costs. This information is available at the Commission’s public internet domain.⁴

B. White Papers on Programs, Consumer Education, and Metering

On December 19, 2006, the subgroups for programs, consumer education and metering met at the Commission’s Harrisburg Offices. It was determined that a necessary component of this investigation would be the collection of data and information about known DSR, energy efficiency and conservation programs that could be implemented or expanded in Pennsylvania. Stakeholders volunteered to provide short descriptive summaries or position papers on programs or policy issues relating to energy efficiency, conservation, DSR, consumer education and time based metering and rates. These papers are available at the Commission’s website.⁵

C. January 19, 2007 Panel Presentations

The DSR Working Group held a meeting in Harrisburg on January 19, 2007. The presentations made at the meeting were recorded and audio is available on the Commission’s website. Presentations were received on a variety of issues, including advanced metering, program design and cost-recovery.

⁴http://www.Commission.state.pa.us/electric/dsrwg_EDC_Existing_DSR_Programs.aspx

⁵http://www.Commission.state.pa.us/electric/DSRWG_Subgroups.aspx;
http://www.Commission.state.pa.us/electric/DSRWG_meter_Subgroup.aspx

D. December 8, 2006 Revenue Decoupling Presentations

The Ratemaking Subgroup met at the Commission's Harrisburg offices on December 8, 2006. The following presentations were made, copies of which are available on the Commission's website.⁶

1. *Impact on Revenue Decoupling: A Changed Rate Paradigm.* This presentation was given by Cynthia Marple of the American Gas Association.

Summary: The discussion began with a historical prospective of traditional rate making and the disincentive it provides to natural gas utilities when customers conserve. To demonstrate customer energy efficiency, it was shown that 15 million new residential natural gas customers have been added since 1980 and consumption has only increased by .1 Tcf. Several states have implemented revenue decoupling programs and programs are being reviewed in other jurisdictions. The advantages and disadvantages of revenue decoupling programs were also presented.

2. *Gas Utility Conservation Incentive Programs in New Jersey.* This presentation given by Dan Yardley of Yardley and Associates concerning recent revenue decoupling cases approved by the New Jersey Board of Public Utilities ("NJ BPU").

Summary: New Jersey Natural Gas and South Jersey Gas filed coordinated proposals in December 2005 with the NJ BPU. Over a 10 month time frame, discovery and negotiation occurred with a settlement stipulation being filed in October of 2006. A three year pilot program with a revenue decoupling rider was implemented shortly thereafter.

3. *Building a New Regulatory Framework for Energy Efficiency as the First Fuel in a Balanced Energy Future.* This presentation was given by Bill Prindle of the American Council for an Energy Efficient Economy ("ACEEE").

Summary: A new framework for energy efficiency policies is arising in the utility sector. With energy prices rising and unlikely to return to historical lows, state regulatory agencies are making adjustments to their restructuring policies. Those same agencies need to provide a new regulatory framework to make efficiency more attractive for ratepayers and utility shareholders. Efficiency is usually the least-cost resource and the fastest to employ. It also has the potential to generate substantial savings for consumers.

⁶http://www.Commission.state.pa.us/electric/DSRWG_Revenue_Decoupling.aspx

4. *Designing Utility Regulation to Promote Investment in Cost-Effective Energy Efficiency.* This presentation was given by Dale Bryk of National Resource Defense Council (“NRDC”).

Summary: Energy efficiency can foster safe, reliable, affordable energy services and further the goal of environmental protection. Policies such as rate regulation/decoupling, portfolio management, system benefit charges programs, codes and standards as well as transmission and distribution system planning were addressed. Emerging policies like the Regional Greenhouse Gas initiative were also identified during the presentation. Several alternatives to decoupling like fixed customer charges and system benefit charges were also acknowledged.

E. Other Sources

Commission staff and stakeholders reviewed or identified the following sources of information as useful in the formulation of policy recommendations.

1. *Quantifying Demand Response Benefits in PJM.* This report was issued on January 29, 2007, by the Brattle Group of Cambridge, Massachusetts.

Summary: The PJM Interconnection, LLC (“PJM”) and the Mid-Atlantic Distributed Resources Initiative (“MADRI”) funded this study to quantify the benefits of demand response.⁷ The study estimates the impact of demand curtailment on wholesale prices and customer costs in the MADRI states and in the broader PJM region. This study uses a simulation-based approach to quantify the market impact of curtailing 3% of load in the BGE, Delmarva, PECO, PEPCO, and PSEG zones during the top twenty 5-hour blocks in 2005 and under a variety of alternative market conditions.

The model produced the following results: 1) curtailing 3% of each selected zone’s super-peak load reduces PJM’s peak load by 0.9% and saves \$8 to \$25 per megawatt-hour, or 5-8% on average during the 133-152 hours in which curtailment occurs; 2) the entire benefits to the entire PJM system could range from \$65 to \$203 million per year; 3) the market impact in each zone is smaller if it curtailed its load in isolation from the other zones; 4) the demand response benefits are \$85 to \$234 per megawatt-hour or \$9 to \$26 million per year. The second major source of benefit to program participants is the reduction in capacity needed to meet reserve adequacy requirements. An estimate of this long-term capacity benefit is \$73 million per year for curtailment of 3% of load in the five zones.

⁷ <http://www.pjm.com/documents/downloads/reports/brattle-report-quantifying-demand-response-benefits-pjm.pdf>

The model does not consider some secondary benefits, and it does not consider some secondary effects that could offset the benefits to non-curtailed loads. Although the energy and capacity-related effects quantified in this study are related to resource costs, a comprehensive analysis of total resource costs, including an assessment of the likely technology mix of future capacity and DR, is a question that has not been addressed in this study. The study leaves many questions unanswered.

2. *Five Years In: An Examination of the First Half-Decade of Public Benefits Energy Efficiency Policies*. This report was issued by the ACEEE in April of 2004.

Summary: Electric industry restructuring ushered in a new era of utility sector energy efficiency mechanisms, broadly categorized as public benefits funds. In 1999, the ACEEE conducted a national review of these public benefit energy efficiency programs. This study is a follow-up of the first examination five years later.

The project involved contacting the twenty-five states examined in the original project and reassessing the public benefits programs as well as changes that may have occurred during that time. Of the jurisdictions examined, 20 have included policies that either require or encourage public benefits energy efficiency programs in their legislation and/or regulatory orders and 18 of those states currently have energy efficiency programs in operation. The study included a state by state profile on policies and administrative approaches. Regarding the funding mechanism, by far the most common approach used by the states is a public benefits charge consisting of a small non-bypassable per-kilowatt-hour charge on the electric distribution service.

State public benefits funds, using revenue collected through the utility distribution system, have become perhaps the most significant new policy mechanism for implementing energy efficiency in the past decade.

3. *New York Energy \$martSM Program Evaluation and Status Report*. The most recent status report provided to the New York State Energy Research and Development Authority (“NYSERDA”) was prepared in May of 2006.⁸

Summary: This report presents evaluation results for “Energy Smart” program activities completed through year-end 2005. The program portfolio consists of initiatives promoting energy efficiency/load management, providing services to low-income and conducting research/development activities.

⁸ http://www.nyserda.org/Energy_Information/06sbcreport.asp

4. *Assessment of Demand Response and Advanced Metering.* Staff of the Federal Energy Regulatory Commission (“FERC”) prepared and issued this report in August of 2006 at Docket AD06-2-000.

Summary: The Energy Policy Act of 2005 required the FERC to prepare a report that assesses electric demand response resources. FERC was required to identify and review the various aspects of demand response and advanced metering implementation and planning, including regulatory barriers. The report includes FERC staff findings in a national survey of DSR and Advanced Metering. FERC Staff solicited written comments from interested parties and provided an overview of a public technical conference.

One result of the survey is that advanced metering currently has a penetration of about six percent of total installed electric meters in the United States and in Pennsylvania, the advanced metering penetration is 52.5 %. The FERC Survey also requested information on the potential peak reduction that existing demand response programs represent. Nationally, the total potential demand response contribution from existing programs is estimated to be about 37,500 MW. The vast majority of this resource potential is associated with incentive-based demand response. FERC Staff also identified several regulatory barriers to improved customer participation in demand response, peak reduction and critical peak pricing programs. The barriers are based on input received from parties in written comments and discussions from the technical conference.

5. *Pennsylvania DSR Working Group 2004 Reports.* The DSR Working Groups published these reports in June of 2004.

Summary: In 2003, the Commission directed the DSR Working Group to examine issues relating to the implementation of DSR programs. Four subgroups were formed to gather information on the following subjects: 1) Technology Deployment, 2) Consumer Surveys, 3) Cost Recovery, and 4) Benefits.

The Technology Deployment subgroup examined the various issues and costs associated with implementing DSR programs. The Consumer Surveys subgroup collected information on EDC focus groups, surveys, and consumer research. They evaluated consumer willingness to participate in current EDC DSR programs and pay the associated fees. The Cost Recovery subgroup studied the ways that DSR related costs incurred by an EDC could be recovered through rates. The Benefits subgroup’s three main objectives were: 1) determine the proper methodology to evaluate the cost-effectiveness of a program, 2) define the benefits of a program, and 3) determine what data is needed to conduct the analysis.

6. *New Jersey Clean Energy Program Annual Report.*⁹ This annual report is prepared by the NJ BPU's Office of Clean Energy. The 2005 Annual Report is the most recent report available.

Summary: The State of New Jersey is committed to achieving a 20 percent reduction in energy demand by 2020, while also increasing the use of renewable energy to 20 percent by 2020. This requires a concerted effort to address building codes, energy efficiency standards, and financial and other market-based incentives for renewable technology with broad public support. The Clean Energy Program Annual Report serves as a practical resource for participation and education to the various programs offered during the year and into the future. The Annual Report provides a track record of achievements and opportunities, as well as an accounting of program implementation. Key contacts are provided for the various programs and critical components are identified.

7. *Energy Efficiency Policy Toolkit.* This report was prepared by the Regulatory Assistance Project and published in November 2006.¹⁰

Summary: This report examines policy options in the areas of energy efficiency, renewable energy, distributed resources and rate design. The report also discusses the key importance of regulatory financial incentives which play an essential role in either discouraging or supporting the development of clean energy, particularly energy efficiency. Rather than address why policy makers might want to develop more aggressive clean energy policies, the report assumes you are already interested. A decade of restructuring activity has created great variation among states in their models for electric sector regulation. This report compares seventeen state activities surrounding energy efficiency standards, investment requirements, targets and performance.

8. *MADRI Advanced Metering Working Group: Installed Meter Survey.* MADRI published this report on April 27, 2005.¹¹

Summary: This report provides detailed information on the level of AMI deployment within the mid-Atlantic portion of PJM. Key findings were:

- Two-thirds of all installed meters were basic Watt-Hour meters.
- Advanced meters are about 1% of the total meter population; but measure almost 20% of the region's electricity sales.

⁹ <http://www.njcleanenergy.com/html/5library/ar.php>

¹⁰ <http://www.raonline.org/Home.asp>

¹¹ <http://www.energetics.com/madri/toolbox/survey.html>

- More than a third of all meters are AMR (e.g., automatic meter reading) meters.

Utilities serving more than 90% of the total load within the mid-Atlantic portion of the PJM territory participated in this survey. This report provides specific information about AMI and AMR initiatives implemented by Pennsylvania EDCs, including large deployments made by PECO, PPL and Duquesne.

9. *National Action Plan for Energy Efficiency*, July 2006. This report was facilitated by the US Department of Energy and the US Environmental Protection Agency. It identifies barriers to investment in energy efficiency and sounds practices for removing these barriers.¹²

IV. GENERAL FINDINGS RESULTING FROM THIS INVESTIGATION.

The DSR Working Group made a number of general findings as a consequence of its investigation. More specific findings relating to a variety of technical and legal issues are addressed in subsequent sections of this report.

A. Energy Efficiency, Conservation, and Demand Side Response Programs Can Be Cost-Effective Methods for Retail Customers to Manage the Amount of Money They Pay for Electric and Natural Gas Utility Service.

There was a general consensus within the DSR Working Group that certain programs and technologies, if implemented properly, can favorably impact ratepayers' energy bills. The comments filed by the DEP, the OCA, the OSBA, the Pennsylvania Coalition for Demand Resources ("PCDR")¹³, PennFuture, PJM, Allegheny, Duquesne, FirstEnergy Companies, PPL, PECO, UGI, Wal-Mart Stores East LP, E-Meter Strategic Consulting, and the PA Utility Law Project offered support for this principle in one form or another. Parties did offer comments that the cost-effectiveness of some programs is questionable, and that improperly designed programs provide little benefit to ratepayers.

¹² <http://www.epa.gov/cleanrgy/actionplan/eeactionplan.htm>

¹³ Composed of Communications Consulting, Conservation Services Group, E Cubed Company, the Energy Coordinating Agency of Philadelphia, Hinkle & Associates, MaGrann Associates, the Pennsylvania Environmental Council, The Reinvestment Fund and Warren Energy Engineering.

B. Ratepayers may directly benefit through participation in DSR or conservation programs, and the utilization of energy efficiency technologies.

Again, there was a general agreement with the proposed finding that individual ratepayers can directly benefit from participation in these programs, in the form of reduced bills for gas and electric service. Participants offered more specific comments on various aspects of this proposed finding:

1. *Program provider.* Some parties offered comments on whether EDCs should be expected to offer these programs. The OSBA asked that consideration be given to allowing the electric generation suppliers (“EGSs”) or independent energy management companies to be the primary program provider. If consumers are truly interested in these services, the OSBA believes that EGSs or other energy companies can provide them. Reliant Energy agrees with the OSBA, and describes the competitive offerings it currently makes available in other jurisdictions. Most EDCs, and most other commentators, accept that EDCs should propose programs for Commission consideration.
2. *Voluntary vs. Mandatory Program Participation.* Those who commented on this issue believe that participation in DSR, conservation and energy efficiency programs should be voluntary for retail customers. For example, this was the position of the OCA, PPL, Duquesne and the FirstEnergy Companies.
3. *Program Effectiveness and Customer Size.* Commentators recommended that the Commission recognize that different types of programs work best for different classes, and that the opportunities for savings also vary significantly by class.

The OCA and PCDR both emphasized that energy efficiency and conservation are the most cost-effective approaches for residential customers. They assert that DSR programs are more appropriate in the context of large commercial and industrial customers, who can have greater financial incentives to reduce usage at a time of peak demand. Other parties disagreed with this argument, such as eMeter Strategic Consulting, and assert that DSR programs can be appropriate for large numbers of residential customers.

PECO commented that the greatest opportunities for conservation and demand reduction, in its experience, have been with the large commercial and industrial customers. PECO therefore cautioned against implementing programs for residential and small business customers without determining their effectiveness through pilot programs. The PCDR disagreed with this position, and believes that

there are proven programs that can be implemented and made available to large numbers of customers.

4. *Program Menus May Vary by Territory.* There was consensus that because of regional differences in climate, economic development and traditions, rigid adherence to identical state-wide programs may not be appropriate. Instead, it is important that the program administrator(s) have flexibility to customize programs to local conditions and circumstances. For example, FirstEnergy noted that the level of air conditioning saturation varies across the state, making summer peak load management less viable in some service territories.

C. Ratepayers may indirectly benefit from programs due to their effect on wholesale energy prices.

Comments were requested on the proposed finding that customers, whether or not they participate in programs, may indirectly benefit from the effect of DSR, energy efficiency and conservation on wholesale energy prices.

The OCA agreed with the proposed finding, stating that retail customers may benefit from the impact of programs on the prices in energy and capacity markets. The DEP, PCDR and PPL also concurred with the proposed finding.

UGI cautioned that ratepayers would not necessarily benefit from wholesale energy price reductions resulting from these programs. It observes that where a default service provider is procuring all generation supply through a competitively procured, load-following contract, wholesale suppliers will, at least initially, reap the benefit of any price reductions.

D. There is no Consensus on the Deployment of AMI For All Customer Classes at this time.

Most participants chose to comment on the issue of AMI deployment. While recognizing the great potential of AMI, stakeholders generally opposed mandating the system wide deployment of AMI by EDCs for all customers at this time, without first clearly determining that the benefits exceed the costs. Large scale AMI deployments are costly, and if customer participation in DSR programs is voluntary, the technology will not be fully utilized. A sampling of comments on this issue follows.

Duquesne stated that the Commission should not mandate system-wide AMI deployment for all rate classes. However, AMI deployments could be considered for large customers above well defined thresholds. Generally, AMI deployment

should be driven by individual customer needs and business practices. Duquesne adds that customers can benefit without AMI utility programs through energy efficiency measures and behavioral changes promoted through education awareness efforts. Duquesne believes that commercial and industrial customers prefer certainty in electric costs, primarily for budgeting purposes. Customer preference is to avoid uncertainty when planning their business' operating budget.

The FirstEnergy Companies observed that DSR programs can move forward without full AMI deployment, pointing to the example of the Metropolitan Edison Company and the Pennsylvania Electric Company. Both EDCs have implemented time-of-use ("TOU") rates without full AMI deployment. While there are incremental costs associated with these meters to allow TOU rates, they are substantially less than that of system wide AMI deployment. Its current priority is to invest capital in improved reliability rather than AMI deployment. The FirstEnergy Companies also believes it would be more appropriate to implement pilot AMI programs before any full scale deployments.

UGI believes that the Commission should be extremely careful in ordering widespread roll-out of AMI and mindful of economic interests of individuals or companies promoting such a deployment. AMI is very costly and would lead to increased distribution rates. Benefits are not proven especially when participation is voluntary.

Allegheny indicates that it may be viable for EDCs to offer TOU rates to medium and small customers without having system-wide AMI deployment. Regarding AMI deployment, pilot programs could serve to field test technology and system limitations. Timely cost recovery would be essential.

The OSBA suggests that TOU metering would not conserve energy, is not workable for small commercial and industrial customers and is costly to implement. OSBA notes that Duquesne Light Company was required to implement real-time pricing for large commercial and industrial customers. The OSBA reports that real-time pricing did not alter these customers' consumption patterns. Instead, these customers took fixed price service from EGSs rather than accept hourly pricing. Hourly priced service exposes customers to price volatility and financial uncertainty that most are unwilling to tolerate. For the most part, Duquesne has found that customers want certainty, need to budget for expenses & don't want to be surprised by rapidly escalating prices or extreme volatility. Therefore, unless the Commission is legally able, and willing, to order EGSs not to supply customers with fixed rates, hourly pricing will cause more shopping but not produce significant energy conservation. As TOU metering is costly, it would not be prudent or cost-effective to mandate it in the absence of significant conservation.

The OCA believes that the blanket deployment of AMI to all residential customers is not justified solely as a means to support DSR programs. Presentations to the DSR Working Group focused on AMI benefits including costs

related to staffing, more easily resolved customer billing inquiries, better theft detection, and quick and accurate identification of service outages. At least in some cases AMI deployment is justified by these benefits. In these cases, the OCA suggests that the Commission review how these systems can be used to support specific DSR programs. Conversely, where AMI is not cost justified, the Commission should rely on efficiency and direct load control programs.

The DEP recognizes that AMI can be an integral tool for customers to reduce energy spending. The DEP supports system wide deployment, but only after the Commission ensures that benefits exceed the costs, and that the appropriate technology is considered. DEP supports the installation of technology capable of allowing customers to voluntarily participate in pricing programs that reflect TOU. The enabling technology should be installed by the EDCs.

The PULP indicates that the installation of smart meters is likely to result in higher rates or prices for all customers. This will produce an adverse impact on limited income and payment troubled customers. In addition, dynamic pricing assumes that every customer has the ability to respond to hourly price signals. Smaller customers basically have the ability to lower the thermostat (for controls of home heating, home cooling, hot water, or pool pumps at peak periods). Responding to price signals is not as easily beneficial to customers with constant usage profiles or who use a very low level of electricity and don't have the ability to reduce or shift usage.

PennFuture addressed the benefits of AMI and real-time pricing for both utilities and consumer. Dollar savings associated with the PPL system and Commonwealth Edison pilot in Chicago are cited. PennFuture proposes a timetable for requiring 10% of the load be enrolled in voluntary real-time pricing programs. PennFuture also proposes a timetable for EDCs to provide customers with technology capable of allowing all customers to participate in real-time pricing programs.

The PCDR recommends that the Commission should adopt generic AMI technical standards for information sharing, communication protocols, data architecture and other necessary and appropriate standards and procedures for recovery of AMI costs. The Commission should also establish standards and procedures for the recover of AMI costs. Utilities should file AMI deployment plans with proposed budgets for Commission review. These plans should identify needed changes to existing systems and quantify operational savings for the utilities. A necessary element of these standards is the rights of consumers to easily access, download and share their metering data.

E. Consumer Education is an Important Component of any Strategy Adopted by the Commission.

There was general consensus that consumer education is a necessary component of any DSR, energy efficiency and conservation strategy. There was not consensus on the various consumer education strategies that should be implemented. Consumer education plans should only be implemented after consultation with stakeholders.

1. *Overview*

The Consumer Education Subgroup recognized that education regarding DSR, energy efficiency, conservation, and AMI will be an important component of any policies implemented in Pennsylvania. Effective education will raise awareness about programs and technologies and foster consumer participation when opportunities present themselves. Accordingly, the subgroup researched successful education approaches by soliciting position papers on effective education strategies.

2. *Comments*

A summary of the comments to the proposed findings on consumer education follows. With the exception of the first point, these ideas represent the suggestions of specific stakeholders, and do not necessarily represent a consensus position of the DSR WG:

- There was consensus that education is critical.
- Potential issue areas for the education include, as suggested by PPL: “Customer Choice Education”; “Wise Use of Energy and Managing Energy Costs”; and “Provider of Last Resort Service and Pricing.”
- Consumer education should involve a variety of tactics, from advertising, media relations and grassroots outreach.
- A baseline survey should be conducted first to measure initial awareness of these issues, followed by annual surveys to evaluate the effectiveness of education programs, and adjust when necessary.
- Stakeholders should have regular involvement and opportunities for input.
- Education strategies used should be based on effective programs employed in other states when applicable, such as California and New Jersey and the New England states.
- Most parties agreed that funding for consumer education should be recoverable by utilities from customers. One commenter suggested carving out funds from future rate cases for consumer education to

create a self-sustaining, ongoing source of funding for consumer education on these issues. This runs counter to other comments stressing the use of funds within the service territory in which they were paid by consumers.

- The Commission should define specific goals and actions that can lead to an efficient and conscientious use of energy that can be sustained over time.
- The campaign should be branded with a theme and logo, while including the ENERGY STAR label to enhance credibility, recognition and accessibility for the campaign.
- Rather than only achieving awareness, emphasis should be placed on educating people and entities to take certain actions and giving them the technical knowledge and tools they need.
- Consumer education should be coordinated across utility territories.
- Consumer education should be tailored to the needs and challenges of small business customers.

A major point of disagreement among the parties is whether consumer education should be handled solely by EDCs or in concert with a statewide campaign directed by the Commission. Another related issue is whether a statewide administrator also oversees the outreach.

Consumer education policies adopted as a consequence of this investigation will likely be coordinated with education policies initiated pursuant to the Commission's proceeding on electric price mitigation. *Policies to Mitigate Potential Electricity Price Increases*, Docket M-00061957 (Final Order entered May 17, 2007).

3. *Best Practices.*

Commentators identified several approaches for further study:

- The "Green Schools Program of the Alliance to Save Energy" works with school districts to create energy awareness, enhance experiential learning and save schools money on energy costs.
- The Ontario Conservation Program created a "culture of conservation" with broad-based and inclusive education.
- Duquesne Light conducts a "Watt Do You Know?" school program targeting grades 4-6 and provides conservation materials at home and garden shows, dispatches a speakers team to community.

V. COMMISSION AUTHORITY AND JURISDICTION

A. The Commission has the authority and jurisdiction under the Public Utility Code to Implement Policies Regarding DSR, Energy Efficiency, and Conservation.

There was general consensus with the proposed finding that the Commission had the authority to develop and implement policies on matters subject to this investigation. Parties generally acknowledged that Section 1505(b) of the Public Utility Code, 66 Pa.C.S. § 1505(b) expressly authorizes the Commission to order electric and gas utilities to implement conservation and load management programs that the Commission determines to be prudent and cost effective.

The Commission must also separately ensure that “universal service and energy conservation” programs are available in each EDC and NGDC territory. 66 Pa.C.S. §§ 2804(9), 2203(8). The OSBA commented that the authority granted to the Commission under these two subsections only pertains to programs for low-income retail electric and gas customers.

B. The information gathered pursuant to this investigation represents a sufficient foundation for the Commission to initiate a process to develop programs for formal Commission consideration and approval.

Generally, parties supported the proposed finding that the Commission has gathered sufficient information for the Commission to begin the process of developing additional policies for DSR, energy efficiency and conservation. While recommendations regarding strategies varied, no one recommended that the Commission conclude its investigation without taking further action.

UGI did comment that any new policies be limited to EDCs and retail electric customers.

VI. PROGRAM OBJECTIVES AND GOALS

A. The Primary Objective Of New Policies Is To Enable Retail Customers to Achieve Cost Savings Through Energy Efficiency, Conservation, and DSR Information and Technologies. Other Valid Objectives May Be Considered.

The Commission's jurisdiction to initiate this investigation arises largely from its responsibility for the regulation of the rates, services and facilities of public utilities. The Investigation Order discussed at length recent, significant increases in fuel costs and the resulting impact, both now and in the future, on retail electric and gas rates. The parties generally agreed with the proposed primary objective of achieving savings for customers. While the parties may disagree on the funding, scope or implementation of these programs, there was a general consensus that the Commission should focus on helping ratepayers reduce the amount of money they pay for energy.

Other benefits were identified too. The DEP and PCDR comment that non-quantifiable health and environmental benefits may be realized through the implementation of these types of policies and programs. The DEP also asserts that some health and environmental benefits are quantifiable, and should be factored into the development of program objectives and goals. The OCA commented that the control of peak load may also benefit overall system reliability. The EAP commented that non-quantifiable goals should not be included in the Commission's strategy, as they are hard to measure and identify.

B. The Commission Should Identify Goals As Part Of This Objective.

Some states and cities have set specific targets as part of their overall strategy. These targets are sometimes quantified as a % reduction of overall or peak demand by a certain time period. Examples include:

1. Connecticut's energy independence law established a goal of a 10% reduction in peak demand by 2010. *Public Act 05-01, An Act Concerning Energy Independence*. According to January 19, 2007 presentation by EnerNOC, Connecticut has developed DSR capacity equal to about 6% of peak load at this time.
2. Austin Energy: According to February 9, 2007, presentation, their intent is to satisfy 15% of expected 2020 demand with demand side management resources.
3. California: California has set a goal of 5% of system peak demand MWs enrolled in DSR economic programs by end of 2007.

Parties offered a wide range of comments in response to the proposed finding that the Commission should set specific targets as part of achieving the primary objective. In general, there was no consensus as to whether the Commission should identify specific percentage reductions for energy use and demand. There was a significant difference of opinion over how to quantify objectives, and the appropriate time frame for measuring reductions.

The EAP, PECO and others recommended that the Commission not set performance objectives based on specific percentage reductions. PECO also noted that EDCs should get credit for reductions from existing programs when setting targets. PECO does not support fixed percentage objectives because the company believes consumer conservation programs should be completely voluntary, thereby rendering consumer energy use and demand reductions largely out beyond the control of the company. Similarly, the EAP comments that program success should be measured by the level of participation.

Instead, some parties recommended alternatives to establishing percentage reduction targets. Duquesne suggests that more appropriate short-term objectives should be the level of customer education awareness and participation in programs. However, Duquesne does note that long-term objectives in the 5-10 year range could be developed to quantify effectiveness. Duquesne also comments that establishing criteria for program effectiveness remains one of the most controversial issues, and any standards must be clearly defined. IECPA comments that if wholesale energy price reduction is the objective, then that impact should be quantified to ensure that program's effectiveness. The OSBA recommends that the DSR Working Group first determine what kinds of programs are cost effective before setting specific reduction targets.

Two parties commented on the desirability of taking a long-term perspective in setting targets. The OCA supports establishing quantifiable goals but notes that programs will need to ramp up over time and that the Commission needs to permit demand response capacity to develop for several years before goals are to be reached. The FirstEnergy Companies also comment that it takes time to develop and implement new programs, and that therefore it will be at least several years before benefits are realized.

Two parties provided comments with specific numerical percentage reduction targets tied to specific years. The PCDR noted the need to establish strong measurable goals. The PCDR advanced what it termed "ambitious goals" that included reducing total electric consumption in Pennsylvania by 1.5% per year from 2010 to 2020, and reducing natural gas consumption by 2% per year for the same period. The PCDR also advanced the goal of developing and maintaining the ability to reduce peak electrical demand by 10% by 2010 through demand response measures. PennFuture proposed similar goals of developing DSR capacity of 10% of peak load by 2010 as well as developing strategic conservation to offset all load growth in electric and natural gas going forward. The DEP recommends that the

Commission consider adopting measures that are consistent with Governor Rendell's Energy Independence Strategy that entails EDCs meeting increases in energy usage and peak demand through demand side resources. The DEP urges the Commission to establish electric goals that address future load growth and natural gas goals that address improving the level of appliance, HVAC and building efficiency. US Steel also supports the identification of quantifiable goals as part of setting program objectives.

While not recommending specific energy reduction targets, PPL commented that it is potentially appropriate for the Commission to develop quantifiable objectives to guide the development of programs and serve as a benchmark for measuring change. PPL cautioned against using such goals as a measure of EDC performance as ultimately it is customers who need to be willing to change energy use through program participation. PPL also recommended against setting a goal based on a forecast of future demand. Instead, PPL suggested establishing goals from a fixed base such as the 2006 peak load and 2006 actual electricity sales.

US Steel noted that the Commission should identify quantifiable goals as part of its objectives. Identification of a quantifiable goal establishes a basis to measure progress and evaluate a program's effectiveness.

EnerNOC comments that their experiences indicates that between 5 and 10 percent of peak demand can be reduced for a small percentage of hours, given proper incentives for customers. Based on Pennsylvania's 2006 peak demand of approximately 23 gigawatts, EnerNOC believes that Pennsylvania can expect to utilize between 1150 and 2300 MWs of demand response resources to meet its capacity needs. EnerNOC cited to the experience of Connecticut, whose enrollment in ISO New England's 30-Minute Real-Time Demand Response Program has grown from 60 MWs in January 2004 to 905 MWs in April 2007.

VII. PROGRAM IMPLEMENTATION

A. Program Administration

Most parties expressed viewpoints on whether programs should be administered by each EDC for its service territory or a third-party, statewide administrator. Other parties did not support either of these positions, but instead but noted the possibility of a hybrid approach involving close coordination across service territories based on common standards.

Four parties specifically commented on the need for statewide coordination of programs without clearly stating a preference for EDC administration or a statewide administrator. The OCA, in stating that programs need to be coordinated statewide, noted that coordination can be supervised by the Commission, by utilities

under the direction of the Commission or by a statewide coordinator. The OCA states that Energy Star programs will be far more effectively implemented if there is statewide coordination. The OCA points out that program administration must also ensure coordination between the electric and gas utility programs to maximize demand and consumption reductions and gain program delivery efficiencies. Similarly, PennFuture did not have a preference for EDC or third party, statewide administrator but noted that if programs are administered by EDCs, there needs to be a strong level of coordination among the state's EDCs. Wal-Mart and DEP also pointed out the need for consistency and coordination on a statewide basis. The DEP urges the Commission to adopt a set of proven, cost-effective programs and believes that these are best implemented on a coordinated, statewide basis. The DEP asserts that statewide coordination of standardized programs will allow for swifter implementation of an energy conservation strategy.

Three utilities expressed a clear preference for EDC administration of programs. PPL comments that EDCs should individually develop and manage their own portfolio of programs so that they can reflect the unique characteristics of their service territory. PECO and UGI-ED also noted that programs should be implemented on an individual EDC basis.

Two utilities provided comments that suggested the possibility of a hybrid model of administration. Duquesne noted that a third party, solely responsible for delivering energy savings, could administer national programs such as Energy Star while EDCs and NGDCs could administer service territory specific programs. Allegheny commented that each EDC could develop a portfolio of programs but also allow for other programs developed by market participants. Allegheny also commented that if a third party administrator is used for DSR development, the administrator should be hired by the Commission.

Comments were also offered in support of a model for the use of a third party, statewide administrator. The FirstEnergy Companies support a third party to implement, administer and track results of any statewide programs. Based on their experience in New Jersey, the Companies note that a statewide administrator can best provide consistent messages and equality across customer classes. The FirstEnergy Companies also note the existence of statewide administrators in Vermont and New York.

Similarly, the PCDR calls for an independent, third party to implement and manage programs. In the PCDR's view, the statewide administrator would have the clear, exclusive mission of saving energy. The PCDR points to examples of the statewide models of Efficiency Vermont and The Energy Trust of Oregon as examples of models of statewide administrators. The OSBA expresses a preference for EGSs or independent energy management companies to offer DSR programs. The PULP also expresses a preference for using an independent, third-party to plan and implement statewide DSR programs.

B. The Implementation Process May Be Commenced Through Commission Orders or Policy Statements.

There was general consensus that the Commission could initiate this program development and approval process through an order, as opposed to a formal rulemaking process. This concept was expressly supported by Duquesne and the OCA. To the extent that permanent, uniform standards are later adopted, parties suggested that formal rulemaking may be appropriate.

C. Timelines for Implementation and Plan Durations

The OCA recommended that companies file their proposed plans within six months of the issuance of a final commission order on the findings of this investigation. PPL commented that program filings should track with default service filings.

The OSBA cautioned against implementing programs in service territories still governed by generation rate caps. If customers are currently paying below market prices, they have little incentive to conserve. The Commission should focus its efforts on those customers who already, or will soon, pay market prices.

PennFuture recommended that programs be in place for at least five years. Most parties do not believe that you can identify an optimal life cycle or program duration.

D. Program design.

While not every party addressed this issue, there seemed to be support for the following findings.

1. *There is Value to Performing Market Penetration and Baseline Studies Prior to the Implementation of Programs.*

PennFuture recommended that the Commission conduct baseline and market penetration studies before implementing any programs. PennFuture identified a number of consultants who could provide these services. Duquesne Light also supports conducting market penetration studies.

Economies of scale may be achieved by combining these studies with baseline surveys conducted for consumer education purposes.

2. *It would be appropriate to pre-approve a menu of programs that have been ranked based on their effectiveness.*

There was support for the Commission approving a menu of programs that have been ranked according to their known effectiveness. This would reduce the time needed for implementation, and reduce the chance of utilities going forward with untested programs of dubious value. Comments were offered in support of this concept by Duquesne, PCDR, and the OCA. The OCA questioned whether there was a need for additional program design, given the many existing programs already identified by the PCDR and others. The OSBA recommended that the Commission order EDCs to introduce a variety of programs in territories where generation rate caps have expired, as pilot programs to help the Commission evaluate the effectiveness of various programs.

3. *Equity considerations dictate that programs are available to all customer classes.*

Given that all ratepayer classes will probably be required to fund these programs, equity dictates that some offerings be available to every class. PPL and US Steel expressly supported this proposed finding.

IECPA expressed the view that interclass cost allocations and benefits must be examined in designing and funding any programs. IECPA specifically questioned the need for programs for Large C&I customers given the plethora of PJM sponsored programs that already exist.

E. Program Evaluation

Numerous parties provided comments on program evaluation issues. The OCA strongly supports evaluation for establishing overall impacts, the effectiveness of program administration and direct program delivery. Similarly, the PCDR notes that program evaluation is critical for determining the effectiveness of programs and their impact on statewide energy demand. The DEP comments that each program should be measured and evaluated and ineffective programs replaced.

The importance of addressing program evaluation early in the planning process was addressed by several parties. The PCDR commented that program evaluation should be a critical component of programs from the start and therefore addressed in initial program designs. Duquesne commented that DSR programs should not be implemented until evaluation methodology, baseline and formulas to measure the effectiveness of programs has been defined and approved. PennFuture points out that early efforts to conduct baseline and market penetration studies can be used to make decisions where programs can achieve the largest savings in the shortest time. The DEP recommends that the Commission utilize proven, time-saving methods of evaluation. Analysis should be relatively easy for programs already studied at length by the Department of Energy of other states. Programs

unique to a particular service territory may require a more protracted evaluation process.

Parties offered perspectives on the methodologies that should be used in program evaluations. The FirstEnergy Companies commented that the calculation of program benefits should include reduced energy costs, reduced capacity requirements, reduced ancillary charges and the benefits of reduced emissions. The FirstEnergy Companies also recommended that the technical manual developed by the participants in the Alternative Energy Portfolio Standards Working Group be utilized for the purpose of tracking and verification of programs.¹⁴ Both PennFuture and the PCDR noted that the Total Resource Cost Test may be an appropriate methodology for determining the cost effectiveness of programs.

The role of program evaluation findings in guiding discussions about program continuation, modification, and subsequent goal setting was mentioned by three parties. The OCA recommended that the success of individual programs and the overall impact be evaluated periodically. As part of the evaluation process, the OCA recommended that additional goals be established based on the evaluation. The PCDR asserts that evaluations can be the primary vehicle for uncovering opportunities for improvements. Finally, PECO comments that evaluations and measures of successful programs can be used to determine which programs should be continued.

Three parties provided comments on who should conduct program evaluations. PPL recommended that programs should be evaluated by each EDC and that the issue of independence or objectivity can be addressed by having the evaluations subject to review by the Commission. Conversely, the PCDR commented that programs should be evaluated by independent parties and the results made public. The DEP strongly endorses program evaluation by independent parties.

VIII. PROGRAM FUNDING AND COST-RECOVERY

A. EDCs and NGDCs Shall Be Able to Recover, On a Full and Current Basis, The Costs Associated With Commission Approved DSR, Energy Efficiency, And Conservation Programs.

There was general consensus that the Commission shall allow utilities to recover the costs of programs from ratepayers. The stakeholders generally accept the premise that appropriate methods of cost-recovery must be clearly addressed by the Commission in its implementation of any new policies. Section 1319 of the Public Utility Code, 66 Pa.C.S. § 1319, identifies a cost-recovery standard for programs implemented pursuant to Section 1505(b). Pursuant to this section, utilities shall recover all prudent and reasonable costs associated with managing, developing, operating and financing conservation and load management programs. Additionally, several parties commented that Sections 2203(6), 2203(8), 2804(8) and 2804(9) of the Public Utility Code provide for full and timely cost recovery for energy conservation programs undertaken for low-income customers.

Reliant Energy recommended that the Commission consider the impact of any programs on the competitive market. It recommended that costs be recovered on a competitively neutral basis, such as a non-bypassable charge. It also recommends that EGSs be allowed to bid on these collected funds to determine if EGS can more cost-effectively provide these programs.

B. There Is No General Consensus For Specific Program Funding and Cost-Recovery Mechanisms.

A range of opinion was offered on appropriate methods for funding programs and recovering their costs. Subcommittees representing the natural gas and electric utility industries, as well as the OCA, submitted position papers to the DSR WG on this issue (included with the appendices to this report, along with the FirstEnergy Companies “Rate Decoupling and Demand Side Response Rider”). PPL commented that the appropriate cost recovery mechanisms may vary, depending on the programs that an EDC is offering. Other comments were offered on certain specific mechanisms.

1. *System Benefit Charges.*

Many parties commented that a System Benefit Charge (“SBC”) may be an appropriate mechanism to provide funding for programs. Several other states have implemented an SBC to fund programs. It is expected that the

¹⁴ *Implementation of the Alternative Energy Portfolio Standards Act*, Docket No. M-00051865 (Final Order entered September 29, 2005).

SBC would probably be a supplemental, but not sole, source of funding for the programs contemplated in this investigation.

A bill introduced into the Pennsylvania General Assembly to amend the Public Utility Code provides for the establishment of a SBC to fund various types of projects, including demand side management and energy efficiency.¹⁵

A number of parties, including the DEP, PennFuture, Allegheny and FirstEnergy filed comments that expressly support the use of an SBC in one form or another. PennFuture believes that the Commonwealth Court's opinion in *Lloyd v. Pennsylvania Public Utility Commission*, 904 A.2d 1010 (Pa. Cmwlth. 2006), represents valid precedent for the Commission's authority to establish SBCs.

IECPA does not believe that this case authorizes the Commission to implement an SBC for energy efficiency. Rather, it asserts that the Court merely upheld a Commission decision that projects that were funded for a limited period of time through PPL's distribution revenue requirement produced sufficient benefits to justify customer funding.

Some parties, such as IECPA and US Steel, have expressed doubts that an SBC is legal or appropriate. The OCA commented that since the SBC issue is before the General Assembly, it would be premature to begin to implement one at this time. The OSBA commented that while the Commission may have the authority to implement an SBC pursuant to Section 1505(b), an SBC imposed under this section may only be used to recover the costs of load management and conservation programs, not to support other alternative energy projects. The OSBA also recommends that the Commission define the programs the SBC would be used to fund prior to determining if it has the authority to authorize the charge.

The PULP asked that the Commission take into consideration the circumstances of low income customers when considering an SBC or other mechanism. It recommended that any fees charged to pay for programs be fully subsidized for these customers.

2. *Alternative Energy Portfolio Standards Act Section 1307 Mechanism.*

DSR and energy efficiency are included among Tier II alternative energy resources under the Alternative Energy Portfolio Standards Act, 73 P.S. § 1648.1, *et seq* ("AEPS Act"). Direct and indirect costs of compliance with this law can be recovered through a Section 1307 mechanism on a full and current basis. 73 P.S. § 1648.3(a)(3).

¹⁵ Senate Bill No. 716, introduced on April 2, 2007.
Docs No. 674421

There was some support, but no consensus, for using this provision of the AEPS Act to recover program costs.

For example, IECPA believes that AEPS Act only provides for recovery of AEPS credit costs, not the costs of DSR, conservation, and energy efficiency programs. The OSBA believes that some cost recovery through this mechanism may be appropriate, but that any costs over and above what might be required for compliance with the AEPS Act should be recovered through Section 1319 of the Public Utility Code.

C. There Is Not A Consensus On The Role Of Revenue Decoupling.

The objective of decoupling the level of sales from the allowed revenue requirement, as established by the Commission, is to provide the utility with a mechanism to recover revenues lost due to lower usage per customer, driven either by the implementation of effective DSR programs or general improvement in technology. There was general agreement among DSR WG participants that the absence of a revenue decoupling mechanism can create a disincentive for EDCs and NGDCs. An appropriately designed revenue decoupling program may therefore remove an energy utility's disincentive to foster energy efficiency and conservation.

Participants in the Ratemaking subgroup offered position papers on revenue decoupling. There was consensus that decoupling in and of itself is not expressly contrary to the provisions of the Public Utility Code, and parties accepted that the concept should continue to be studied. The EAP emphasized that its members, particularly NGDCs, should be able to propose decoupling mechanisms without waiting for additional examination of relevant issues. Commission staff also prepared and shared a position paper with the subgroup, which was then discussed at an open meeting.

The OSBA stated that revenue decoupling is not expressly prohibited by the Public Utility Code but would violate the prohibition against single issue ratemaking, as articulated in *Pennsylvania Industrial Energy Coalition v. Pa. Public Utility Commission*, 653 A.2d 1336 (Pa. Cmwlth. 1995); *National Fuel Gas Distribution Corp. v. Pa. Public Utility Commission*, 464 A.2d 546 (Pa. Cmwlth. 1983); and *Popowsky v. Pa. Public Utility Commission*, 869 A.2d 1144 (Pa. Cmwlth. 2005). The OSBA also stated that the revenue decoupling proposals contemplated by the EDCs and NGDCs in their position papers would be contrary to Section 1301 because the utilities would essentially be allowed to reconcile distribution revenues but there would be no reduction in the return on equity they would be awarded. Furthermore, the OSBA stated that revenue decoupling reduces the risk for utilities but produces higher rates for consumers, thereby compromising the role of lower prices as an incentive to conserve energy.

The OCA emphasized three points. First, if decoupling is determined to be necessary and in the public interest, it should only be considered as part of a package of cost-effective, utility-funded, energy efficiency and conservation measures and should follow the implementation of such measures. Second, any decoupling mechanism must benefit customers as well as utilities, with any cost recovery matched by actual savings. Third, the Commission should determine whether to go forward with revenue decoupling on a comprehensive policy basis for both natural gas and electric companies.

IECPA opposes revenue decoupling on public policy grounds, and also has concerns about its legality. It believes that properly allocated and designed distribution and transportation rates alleviate the need for decoupling. It believes that decoupling would ultimately result in customers, including those already engaging in conservation and DSR activities, paying more for electric utility service. US Steel also expressed reservations and recommended further study before a final decision is made.

The PCDR and PennFuture support some form of revenue decoupling, as part of a package of cost-effective utility funded energy efficiency and conservation measures. PennFuture would require EDCs to propose decoupling mechanism that would apply to all programs, as opposed to the design of utility-specific mechanisms at the discretion of the utility.

The position of the utilities is that they should have the option of proposing a decoupling mechanism, but that they should not be required to decouple. They also request that the Commission be open to different cost recovery and decoupling models, as opposed to mandating a uniform approach.

D. Funding and Cost Recovery Present Certain Ratepayer Equity Issues.

There was consensus that the equity of funding and benefits must be considered. Funds raised from one service territory should be used for projects within that territory. PPL, Allegheny, U.S. Steel and the OCA urged the Commission to ensure that funding drawn from a particular service territory be applied towards programs within the same territory. PPL believes that this objective is further rationale in support of EDCs managing their own programs. IECPA and US Steel commented that interclass allocations and benefits should be explored as well. IECPA specifically questioned the need for programs for large C&I customers given the plethora of PJM sponsored programs that already exist.

IX. OTHER POLICY RECOMMENDATIONS

The stakeholders were asked to consider a variety of other policy recommendations developed by staff during the course of the investigation, which might not be directly related to the adoption of new DSR, energy efficiency and conservation programs. Duquesne opposes the consideration of any of the following policies, believing them to be beyond the scope of the investigation.

A. Act 213 Amendments Regarding DSR and Energy Efficiency.

There was no consensus for the reclassification of DSR, energy efficiency and conservation as a Tier I alternative energy resource. The DEP, OCA and PennFuture oppose this recommendation. US Steel asked that proposals be considered that would increase the value of energy efficiency credits without reducing the value of other Tier I resources. The PCDR supports creating a third tier for energy efficiency, conservation, and DSR resources.

B. Incorporating DSR, Energy Efficiency and Conservation into the Default Service.

PennFuture, the OCA, PPL and DEP offered support for the coordination of energy conservation with the default service obligation.

PennFuture identified five states that incorporate the DSR, energy efficiency, and conservation as part of their default service regulatory framework. For example, Maine and Maryland allow EDCs to procure energy efficiency resources for their standard offer service.

The DEP commented that Governor Rendell's Energy Independence Strategy would require default service providers to consider whether load growth could be addressed through energy efficiency and conservation before they procure additional generation.

The Commission has identified demand side resources as an acceptable method of satisfying the default service obligation in a recently issued proposed policy statement.¹⁶

C. EDC Coordination with Regional Transmission Organization DSR Programs.

There was not consensus on the level of cooperation EDCs should render to customers for RTO DSR programs. PJM commented that customers should have

¹⁶ *Default Service and Retail Electric Markets*, Docket M-00072009 (Proposed Policy Statement Order entered February 9, 2007).
Docs No. 674421

clear rights to their meter data, and be able to authorize third party access. IECPA agreed, commenting that EDCs should not be permitted to block or inhibit any customer's participation in the PJM DSR program.

Allegheny commented that the Commission does not have jurisdiction over an EDC's involvement with PJM's DSR programs, as they are wholesale programs.

PPL supports the idea of EDCs facilitating customer participation in RTO DSR programs. However, EDCs should be able to recover the costs associated with this participation, and this participation should not negatively impact the EDC or its default service wholesale supplier.

D. EDC Coordination with Curtailment Service Providers.

No general consensus has been identified regarding the proposed finding on EDC coordination with curtailment service providers ("CSP")

As mentioned above, PJM supports the concept of customers authorizing third party access to their meter data. DEP and EnerNOC also support this concept. It also recommends that EDCs provide authorized curtailment service providers ("CSP") with access to meter data within 10 business days.

Other parties identified specific issues that require resolution before agreeing with the proposed finding. PECO commented that EDCs should be able to charge CSPs for access to customer information, and that the Commission should authorize appropriate protections to ensure the privacy of information. IECPA and US Steel shared PECO's concerns regarding the privacy of sensitive customer data. As a potential solution, PPL suggests that CSP participation can be facilitated by subjecting them to the rules that currently govern EGS interactions with EDCs.

E. Appropriate Rate Design May Foster Conservation.

The OSBA offered comments supporting the Commission's proposal to eliminate declining blocks and demand charges through its default service regulations as a means of achieving conservation. PECO commented that this issue should be reserved to the default service proceeding.