

Electric Utility Regulation and Energy Policy in Kentucky

**A Report to the
Kentucky General Assembly
Prepared Pursuant to
Section 50 of the 2007 Energy Act**

**by the
Kentucky Public Service Commission**

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EXECUTIVE SUMMARY

House Bill 1, commonly known as the 2007 Energy Act, was enacted during the 2007 Second Extraordinary Session of the Kentucky General Assembly. Section 50 of the act directed the Kentucky Public Service Commission (Commission) to examine its statutes and regulations and to make recommendations by July 1, 2008, to the Legislative Research Commission (LRC) regarding four key aspects of energy policy and regulation.

This report is submitted in fulfillment of that legislative mandate.

In order to fully examine the issues as directed by the General Assembly, the Commission opened an administrative proceeding. Each of the six jurisdictional electric utilities in Kentucky that own or operate generation and transmission facilities was made a participant in the proceeding. Others invited to take part in the proceeding and provide information were the Office of Attorney General and stakeholder groups including low-income advocacy groups, environmental organizations, economic development representatives, industrial energy users, renewable energy producers, and Kentucky's coal industry.



The Commission engaged a consultant to assist in analyzing existing laws and regulations and gathering information, including through interviews with the utilities and other stakeholders. Testimony and public comments were received from the jurisdictional utilities and several other parties, including stakeholder groups, the Attorney General (AG) and the Governor's Office of Energy Policy (GOEP). The consultant submitted a report that included 28 recommendations. An additional 11 recommendations came from various participants. The Commission conducted a public hearing to review testimony on April 30, 2008.

This report analyzes and responds to each of the thirty-nine recommendations. It identifies which recommendations are most important with respect to each of the four key issues listed in Section 50 of the 2007 Energy Act and discusses the comments received in regard to each of the four issues. The findings and recommendations for each of the Section 50 issues are briefly summarized below.

ISSUE 1

Eliminating impediments to the consideration and adoption by utilities of cost-effective demand-management strategies for addressing future demand prior to Commission consideration of any proposal for increasing generating capacity.

Demand-side management (DSM) has been used successfully in Kentucky to help maintain the proper balance between the needs of consumers for reliable power at fair, just and reasonable rates and the ability of utilities to generate, transmit and distribute that power. The Commission recognizes that DSM has considerable untapped potential to help meet Kentucky's future energy needs.

Under current statutes, DSM programs exist only through the initiative of utility companies. The Commission's authority extends only to the review and approval or denial of such DSM programs and the recovery of costs through associated surcharges.

The Commission recommends the existing DSM statute (KRS 278.285) be amended to broaden the Commission's authority to require utilities to implement specific DSM programs. With such authority, the Commission could insure that proven and cost-effective programs are not being overlooked by any given utility. KRS 278.285 as currently written actually limits the Commission's ability to authorize various DSM programs. As DSM becomes more important, the Commission's ability to play a more meaningful role in the development of DSM programs should be enhanced.

Additionally, the Commission will promulgate a DSM regulation. The regulation will incorporate three key recommendations of the report. First, it will clarify and standardize rules governing industrial customer exclusion from utility DSM programs. The Commission believes that the imprecision inherent within the existing statutory opt-out provision can result in lost opportunities to capture significant energy savings. The forthcoming regulation will define "industrial customers with energy intensive processes" and contain a procedure for such customers to certify their self-directed energy efficiency efforts to the utility, which will then make a certification to the Commission. As part of this, industrial customers opting out of a utility DSM program should be required to demonstrate the effectiveness of their own energy efficiency efforts before they are granted an exemption from participation. This should provide an incentive for industrial customers to conduct individual assessments of energy efficiency.

Second, the new DSM regulation will also establish standards for the evaluation of both proposed and ongoing DSM programs. The standards will set out broad parameters that permit flexibility with respect to analyzing the costs and benefits of DSM programs but that include nationally accepted measurement and verification methods. Without such standards, inconsistent measurement and evaluation methods may produce misleading assessments of DSM programs.

The Commission recognizes that while increased authority to implement new DSM programs and greater clarity with regard to evaluations and implementation standards will account for many new energy efficiency benefits, DSM programs will only delay, not eliminate, the need for construction of new generation capacity.

As with other regulatory changes, the Commission's approach to DSM standards will focus on maintaining appropriate flexibility. Before proposing a new regulation, the Commission will seek additional input from utilities, their collaborators or advisory groups and from other stakeholders.

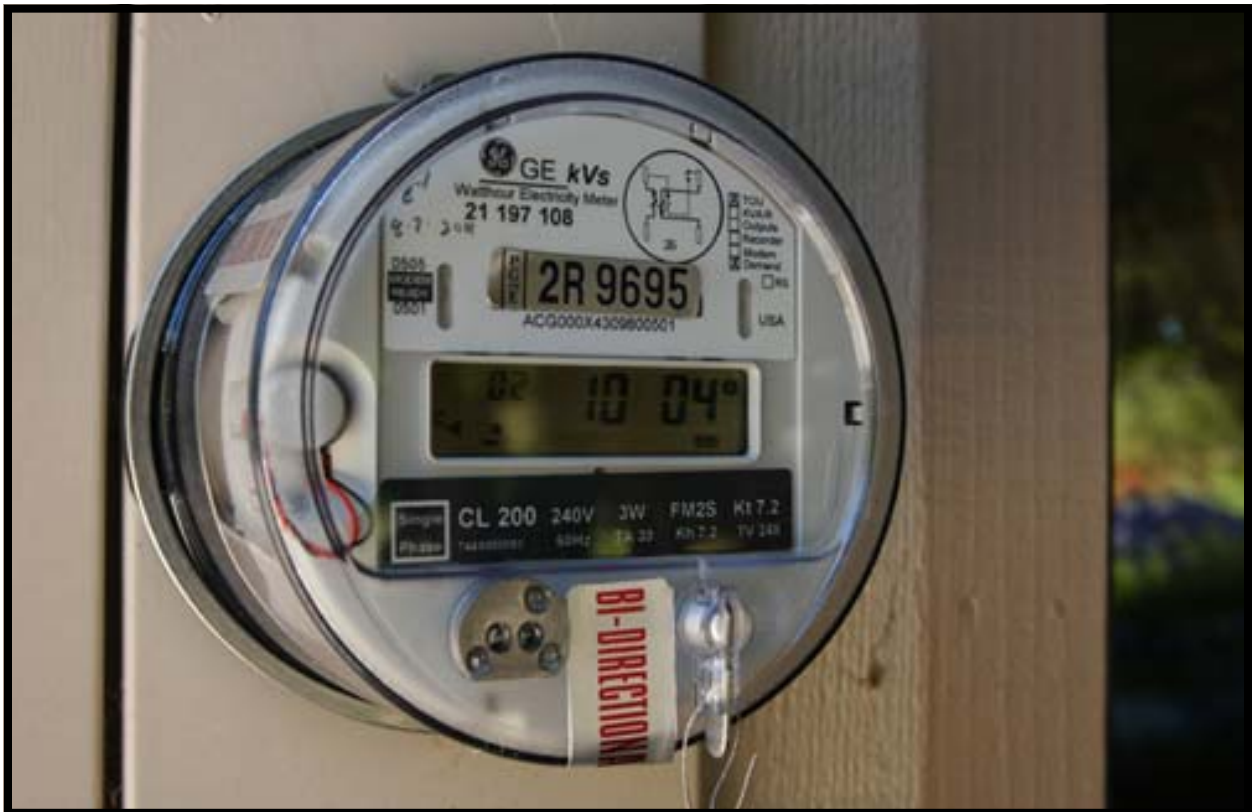
ISSUE 2

Encouraging diversification of utility energy portfolios through the use of renewables, and distributed generation.

This issue has been addressed in large measure by the enactment of Senate Bill 83 during the 2008 Regular Session of the Kentucky General Assembly (SB 83). This measure amends the net metering statute (KRS 278.465) by expanding it to include additional forms of renewable energy and by increasing the allowable generating capacity to 30 kiloWatts. SB 83 also directed the Commission to develop net metering and interconnection guidelines.

The Commission has begun that process, opening an administrative case in late May and inviting the participation of all electric utilities and interested stakeholders. At the conclusion of the case, the Commission will issue guidelines to assist utilities in meeting the legislative objective of greater usage of renewable energy sources and distributed generation.

It should be noted that few Kentucky ratepayers took advantage of the opportunity presented by the previous net metering statute. At the time that information was collected for this case, utilities in the state reported a total of only six net metering customers. The Commission anticipates that participation could increase considerably under the greater opportunities afforded by the passage of SB 83.



ISSUE 3

Incorporating full-cost accounting that considers and requires comparison of life-cycle energy, economic, public health, and environmental costs of various strategies for meeting future energy demand.

The categories of costs identified in Issue 3 may generally be defined as externalities – those costs not directly incurred in the planning, construction or operation of energy facilities. Under existing law, the Commission does not have authority to consider externalities in either the certification of specific facilities or in its reviews of the broader resource plans submitted by electric generation and transmission utilities. Traditional concepts of ratemaking also prevent the Commission from considering externalities in the ratemaking process.

It is impossible to quantify external costs with any degree of confidence or precision, because the costs associated with unregulated externalities are not known and measurable. No state in the country utilizes mandatory full-cost accounting in its planning, siting or ratemaking processes. The Commission believes it would be premature and unwise for Kentucky to attempt to quantify environmental or public health externalities at this time. Such an effort would definitely lead to higher rates without necessarily producing a corresponding social benefit or a result that is aligned with some future national policy requirement.

To be effective and efficient, full-cost accounting must be based on decision-making criteria that applies to all utilities and on utilities being required to coordinate their efforts to minimize external costs that are deemed to be undesirable. Such uniformity or coordination can be achieved only through statewide planning under the auspices of a regulatory agency such as the Commission.

The Commission, however, firmly believes that statewide planning at such a level is neither practical nor beneficial. The jurisdictional investor-owned utilities operate in wholesale markets on a competitive basis and have different strategic plans. Although utilities already coordinate efforts in such areas as system reliability, transfers of power, research and development, and industry best practices, statewide planning would not be practical due in large part, to the limitations on information sharing among utilities that operate in competitive wholesale markets and the multi-state structure of the parent company of Kentucky Power. Statewide planning also fails to address any of the four issues set out in Section 50. In addition, the lack of statewide planning does not present an impediment to action on any Section 50 issue by an individual utility.

The Commission believes that the current integrated resource planning (IRP) process is adequate to address the future resource needs of Kentucky's jurisdictional utilities. This is borne out by the fact that two recent Commission studies confirmed that Kentucky has adequate electric generation and transmission capacity.

The Commission will continue to review the adequacy of generation and transmission on a utility and statewide basis as necessary. At this point, however, a statewide planning process solely for the purpose of incorporating full-cost accounting is neither necessary nor justified and should be rejected.

ISSUE 4

Modifying rate structures and cost recovery to better align the financial interests of the utility with the goals of achieving energy efficiency and lowest life-cycle energy costs to all classes of ratepayers.

The Commission agrees that it is desirable to align the financial interests of utilities with the goals of achieving energy efficiency and lowest life-cycle energy costs to all classes of ratepayers. Doing so through the modification of rate structures and cost recovery mechanism is a complex undertaking, however, that requires considerable expertise and experience in order to produce the intended result.

The Commission faces considerable challenges with respect to retaining institutional knowledge and maintaining adequate resources to fulfill its core regulatory functions. It also faces reductions in its capacity to monitor energy policy developments at the federal and state levels, to follow industry research and development activities or to monitor holding companies that are the parents of Kentucky's jurisdictional, investor-owned utilities.

These challenges and limitations are the result of a large number of retirements by staff with decades of specialized experience, significant transfers of the Commission's assessment-driven appropriated revenue to non-Commission functions, a reduction in authorized personnel caps and an inability to offer compensation that is competitive with private sector employment. If current trends continue, the Commission's workforce could fall by early 2009 to half of what it was just a few years ago.

The Commission's current fiscal condition threatens its ability to oversee the safety and reliability of utility services and to insure that rates remain fair, just and reasonable. Given the compromised capacity to fulfill these central functions, it will be difficult for the Commission to take



on the additional workload associated with complex initiatives that seek to maintain Kentucky's status as a low-cost leader in electric power.

The Commission fully endorses the recommendation that the General Assembly provide for additional staff and the funding that will be needed in order to insure that the Commission can fulfill its statutory responsibilities and play an effective role in development of Kentucky's energy policy. The additional staff will be particularly important in meeting increased activity in the areas of integrated resource planning, demand-side management, environmental surcharges and certification of new facilities. Increased staffing is also needed in the areas of energy policy and research.

The Commission urges the General Assembly to provide the resources sufficient for both the performance of its statutory duties and the additional tasks that will be required in order to maintain Kentucky's energy and economic competitiveness within the context of a rapidly evolving national and global regulatory environment. If the development of innovative regulatory approaches is desired as part of the Commonwealth's overall energy policy, the initiative must be fully staffed and funded.

Moreover, although the Commission has the authority to offer financial returns as incentives to encourage energy efficiency and DSM programs, the Commission believes that the General Assembly should explicitly affirm these ratemaking options as being consistent with the pursuit of a public policy which the General Assembly supports. The Commission also encourages the General Assembly to support the non-legislative initiatives the PSC will address or implement as a result of this review.

Finally, the Commission does not believe that rate caps are appropriate for the programs that are the subject of this review. Although the PSC has authorized and even required deferral of certain costs in cases of an ongoing or future benefit, those costs ultimately must be recovered. If current recovery is not allowed, a deferral may create additional costs which must ultimately be borne by ratepayers. Furthermore, inappropriately structured deferrals may also result in future customers paying for property or savings that benefit current customers. The Commission expects that utilities would challenge rate caps and certain deferrals as an unconstitutional taking without compensation of the utility's property. Finally, the Commission notes that rate caps imposed in some states in conjunction with electric market restructuring have invariably resulted in volatile pricing and dramatic rate increases.

CONCLUSION

In directing the Commission to analyze the four Section 50 issues, the General Assembly gave implicit weight to the Commission's expertise and experience with respect to those issues. The Commission appreciates the General Assembly's past and continued support. The Commission carefully weighed the opinions of the consultant, the utilities and the many and diverse stakeholder interests participating in the proceeding. The Commission hopes that this Report will assist legislators in their debate and consideration of future energy policy.

INTRODUCTION & PROCEDURAL BACKGROUND

On November 20, 2007, the Commission initiated Administrative Case No. 2007-00477 to investigate the energy and regulatory issues enumerated by the General Assembly in Section 50 of the 2007 Energy Act. The General Assembly directed the Commission to examine its statutes and make recommendations on or before July 1, 2008 to the LRC regarding four highly technical energy and regulatory issues.

The issues set forth in Section 50 of the 2007 Energy Act are as follow:

1. Eliminating impediments to the consideration and adoption by utilities of cost-effective demand-management strategies for addressing future demand prior to Commission consideration of any proposal for increasing generating capacity;
2. Encouraging diversification of utility energy portfolios through the use of renewables and distributed generation;
3. Incorporating full-cost accounting that considers and requires comparisons of life-cycle energy, economic, public health, and environmental costs of various strategies for meeting future energy demand; and
4. Modifying rate structures and cost recovery to better align the financial interests of the utility with goals of achieving energy efficiency and lowest life-cycle energy costs to all classes of ratepayers.

The 2007 Energy Act adopted various tax and financial incentives aimed generally at entities that develop: (1) facilities which produce alternative transportation fuels; (2) gasification facilities which produce, primarily, alternative transportation fuels, synthetic natural gas, chemicals, chemical feedstocks, or liquid fuels; (3) renewable energy facilities which produce electricity; or (4) energy efficiency projects which decrease energy consumption in a manufacturing process. The 2007 Energy Act also included incentives for producers of ethanol and renewable diesel.

In determining how to best analyze the technical issues enumerated in Section 50, the Commission employed an expert Consultant to assist in this investigation. The Commission issued a Request for Proposal (RFP)¹ soliciting consulting services to perform an in-depth review of the statutes and regulations relating to its authority over regulated utilities and to make findings and recommendations that encompass the issues set forth in Section 50 of the 2007 Energy Act. As a result of the RFP process, the Commission selected Overland Consulting (Consultant).²

1. See http://Commission.ky.gov/agencies/Commission/hot_list/RFP_6950700000948.pdf.

2. Overland Consulting of Overland Park, Kansas, subcontracted a portion of the project to London Economics, Inc., of Boston, Massachusetts. London Economics was primarily responsible for chapters 4 and 5 of the Consultant's report relating to DSM and renewable energy, respectively.

In accordance with the RFP and resulting personal service contract, the Consultant met individually with stakeholders to discuss the issues set forth in Section 50 of the 2007 Energy Act, including: Kentucky's six jurisdictional generation utilities, the Office of the Attorney General, and stakeholders representing low-income advocacy groups, environmental organizations, economic development representatives, industrial energy users, renewable energy producers, and Kentucky's coal industry. The Consultant's role included preparing an initial report and being subject to cross-examination at the public hearing, assisting Commission Staff in conducting discovery of the parties, and supplemental testimony, if needed. The Consultant also reviewed the parties' testimony, and assisted the Commission Staff in developing questions for the hearing.

There are six major jurisdictional electric utilities that own generation assets in Kentucky and each was a made party to this proceeding. Four are investor-owned utilities: Duke Energy Kentucky, Inc. (Duke Kentucky); Kentucky Power Company (Kentucky Power); Kentucky Utilities Company (KU); and Louisville Gas and Electric Company (LG&E). The other two are generation and transmission cooperatives: Big Rivers Electric Corporation (Big Rivers), which is owned by and serves three distribution cooperatives; and East Kentucky Power Cooperative, Inc. (EKPC), which is owned by and serves sixteen distribution cooperatives.

The procedural schedule for the Administrative Case allowed for discovery, the filing of testimony and written comments, a public hearing and the filing of post-hearing briefs. The six jurisdictional generating utilities jointly filed testimony. LG&E and KU (jointly as the E.ON entities) as well as Duke Kentucky also filed their own separate testimony. In addition, the following intervenors filed testimony: Community Action Kentucky (CAK); Kentucky Industrial Utility Customers, Inc. (KIUC); Association of Community Ministries (ACM) and People Organized and Working for Energy Reform (POWER); Sierra Club; and Stand Energy Corporation Customer Group (Stand). The Consultant presented its findings and recommendations in a report titled "Review of the Incentives for Energy Independence Act of 2007 Section 50," which was filed as its testimony on March 4, 2008.

Supplemental testimony was also filed by the following parties: Duke Kentucky; KIUC; Kentucky Power; LG&E and KU; and the Sierra Club. Written comments were filed by the AG and the Governor's Office of Energy Policy (GOEP), and a public hearing was held on April 30, 2008 at the Commission's offices.

The Commission is pleased to have the opportunity to express its views with regard to each of the issues identified in Section 50 and each of the thirty-nine recommendations offered in the subsequent administrative proceeding. It is important to note, however, that several of these issues and recommendations are currently before the Commission in a formal case proceeding or are likely to come before the Commission prospectively. Accordingly, the Commission's general discussion of these issues herein should not be considered to be binding on the Commission with regard to our review of the specific facts and applicable law of individual cases.

DISCUSSION OF THE SECTION 50 ISSUES

The following is a discussion of the comments and issues raised by the parties to the four mandated directives in Section 50 of HB 1. The specific issue of the mandate is cited first, followed by a summary of Overland's comments from its report, then by a discussion of the issue by the parties.

Comments on Issue (1) of Section 50

(1) Eliminating impediments to the consideration and adoption by utilities of cost-effective demand-management strategies for addressing future demand prior to Commission consideration of any proposal for increasing generating capacity.

Overland identified three broad categories of **Demand-Side Management (DSM)**³ and energy efficiency impediments. First, the "opt-out" provision of KRS 278.285(3) allows for industrial customers with energy intensive processes to "opt out" of utility sponsored DSM programs if they have undertaken their own programs. Overland stated that this provision has hampered the development of DSM programs by keeping a substantial portion of the electric consumption outside the utility-sponsored DSM activities. Second, Overland indicated that there should be more opportunities for cooperation and coordination among the utilities and third parties (including non-governmental organizations (NGOs) and community organizations) with regard to implementation of DSM programs and activities. Third, Overland suggested there is a greater potential for utilities to increase reliance on third party contractors in implementing DSM programs and measures. According to Overland, the DSM statute does not expressly authorize the Commission to act on its own initiative to direct utilities to implement particular programs that they have not proposed.

The Generating Utilities believe that current **Integrated Resource Plan (IRP)** and **Certificate of Public Convenience and Necessity (CPCN)** processes are adequate to ensure a wide and ever-growing array of energy efficiency and DSM programs and, except for Duke Kentucky, agree that additional legislation is not required to achieve this or any of the results contemplated by Section 50. The Generating Utilities object to any mandate that would require consideration of one option before another, whether in the context of CPCN proceedings or otherwise.

3. Words and phrases in bold in the text of the report are defined or described in the Glossary at the conclusion of this report.

Duke Kentucky believes the Commission's authority is limited by statute and does not include the broad statutory authority and the flexibility to consider innovative utility programs and service offerings for customers through alternative regulatory authority. Duke Kentucky believes that the additional flexibility of alternative regulatory authority would be beneficial to all stakeholders. According to Duke Kentucky, this alternative regulatory authority should also explicitly vest the Commission with general **regulatory tracker** approval authority. Duke Kentucky also believes that all stakeholders would benefit from a restructuring and shortening of the appellate process. This would be accomplished by making the review of Commission decisions begin at the Kentucky Court of Appeals. Duke Kentucky states that the Commission should consider making such a recommendation in its report to the General Assembly. Duke Kentucky also stated its belief that most customers do not have the data, time, or the desire to evaluate efficiency options. They perceive energy efficiency alternatives as higher-priced, complicated, or unwelcome interferences with their lifestyle or business. According to Duke Kentucky, many customers lack the capital to invest in energy efficiency. Lastly, most customers are not aware of the positive impact their individual behavior can have on the welfare of others on such issues as climate change or national energy independence. Duke believes that these informational challenges limit customer participation in energy efficiency programs, regardless of who develops, markets, or administers the programs.



ACM and POWER believe that many of the DSM programs can be good for some households but not necessarily for low income households and the Commission must be careful not to increase the financial burden to the most vulnerable customers.

KIUC believes that KRS 278.285 already provides a number of strong policy tools for the Commission to utilize in encouraging cost-effective DSM. In light of these existing policy options, KIUC does not believe a statutory change in response to Issue (1) appears necessary. Finally, KIUC supports continuation of the "opt-out" provision in KRS 278.285.

The Sierra Club, in its testimony, generally notes statutory and regulatory impediments as well as impediments due to the lack of public education and the conventional mindsets of the utility companies and the Commission.

GOEP states its support for the recommendations concerning the expansion of DSM for reducing energy demand and consequently seeing that they have the potential for reducing the energy outlays of industry and citizens in Kentucky. GOEP also supports the recommendation that input be solicited from both non-utility and utility stakeholders when developing Kentucky's demand-management strategy. To this end, GOEP encourages the Commission to coordinate with non-regulated utilities that serve Kentucky, including the Tennessee Valley Authority (TVA) supplied utilities and the municipalities that offer electric service. GOEP believes that collaboration with TVA may prove insightful since it has recently embarked on a demand management initiative with a goal to achieve at least 1,200 MW of load reduction by 2013.

Comments on Issue (2) of Section 50

(2) Encouraging diversification of utility energy portfolios through the use of renewables, and distributed generation.

Overland does not believe it is practical to recommend mandatory requirements such as a carbon cap and trade program, carbon tax, or **Renewable Portfolio Standard (RPS)** for Kentucky. Overland recommends that more subtle adjustments be made to the IRP process so that utilities start to consider renewables more thoroughly as potential alternatives. According to Overland, additional recommendations to encourage renewables should also incrementally improve the landscape for such investment in Kentucky. Based on statements made in responses to data requests, Overland believes it is clear that the utilities are not necessarily opposed to renewable power options. However, Overland believes that an RPS should be both practical, affordable, and in the public interest. The potential for renewables, as well as other carbon limiting technologies should be considered in assessing an appropriate RPS and timeline for such a standard as Overland notes later in Recommendation No. 10.

Overland indicates that statistics on **distributed generation (DG)** are unavailable, thereby implicitly confirming that there is currently no significant distributed generation in the Commonwealth. Overland states that Kentucky investor-owned utilities have not pursued utility-owned DG. Overland believes that development of third-party DG systems may also be hampered by the lack of more favorable interconnection policies and backup power requirements, including the lack of **net metering** for non-solar installations. Overland states that net metering is a critical component of any program supporting the use of distributed energy resources. It is Overland's position that enabling small-scale, distributed technologies to be efficient requires that the benefits of diversification be available in that the owners of distributed generators be able to sell excess production through a net metering program. Finally, Overland finds the current net metering statute, KRS 278.465, is also a deterrent in that it allows only photovoltaic systems with 15 kW or less to qualify for the net metering service offered by utilities.⁴

In their testimony, the Generating Utilities reiterate their position that a statewide renewable energy standard is unnecessary, but they are not opposed to the establishment of a task force to investigate the availability and advisability of, and need for, additional renewable and distributed generation resources.

CAK testified that while renewable sources of power such as hydro, wind, and solar represent more immediate solutions and are by nature "green" alternatives, the question becomes at what cost we utilize these sources and who pays for it. According to CAK, there is widespread doubt as to whether the renewable sources of energy of solar, hydro, and wind could generate enough energy to meet the needs of a significant percentage of the population and there is also a belief that the power generated would be significantly more expensive. Instead, CAK recommends two safeguards for low income customers. First, a discount rate, tied to current per kilowatt rates, should be offered to households that are at or below 200% of the federal poverty guidelines. Second, CAK recommends that energy conservation programs that piggy-back the federal **weatherization program** should be expanded.

4. As discussed in more detail in the discussion on Recommendation No. 14, this statute was amended by the 2008 General Assembly to apply to essentially all renewable fuel sources up to 30 kW.

KIUC supports the diversification of utility energy portfolios through the use of renewable generation if it is cost-effective to do so. KIUC does not support arbitrary renewable energy targets that are mandated without respect to cost considerations. KIUC also supports the encouragement of distributed generation through reasonably-priced and well structured partial requirements service tariffs. KIUC believes the Commission requires no additional statutory authority to accomplish this objective.

The Commission does not have policies which explicitly or implicitly encourage the diversification of utility energy portfolios through the use of renewables and distributed generation, according to the Sierra Club. The Sierra Club believes this is an impediment to the diversification of Kentucky's energy portfolio and the use of renewables.

GOEP agrees that any renewable portfolio standard be voluntary, realistic and cost effective. GOEP states its belief that mandatory RPS requirement in Kentucky would impose undue burdens on ratepayers, especially those on low or fixed incomes. GOEP concurs with Overland's finding that given Kentucky's limited wind, solar, or hydropower potential, Kentucky's utilities would have to obtain renewable-generated power from others at high prices relative to the cost for a utility that has access to renewable resources on its own system. GOEP also states that the cost will be very high relative to low cost coal-fueled generation.

GOEP notes its belief that national climate change legislation will result in increased costs for electricity generation. In addition, GOEP believes if carbon dioxide emissions allowances are auctioned rather than being allocated to utilities, the cost impact will be greater and more immediate on states in which generation is predominantly coal-fired. Therefore, GOEP states that it would be very harmful to add to such cost shock the costs resulting from a mandatory RPS.



Comments on Issue (3) of Section 50

(3) Incorporating full-cost accounting that considers and requires comparison of life-cycle energy, economic, public health, and environmental costs of various strategies for meeting future energy demand.

Overland agrees with the past assessment of the Commission that Kentucky's statutes and historic ratemaking principles do not provide for consideration of most externalities when considering future energy demands. Overland notes that recognition of externalities in the resource planning process is not generally considered elsewhere in the United States either. According to Overland, imposing recognition of externalities (except possibly in the limited context of likely CO₂ legislation) would arbitrarily and improperly cause energy costs in Kentucky to increase significantly; jeopardize the credit quality of regulated utilities; and hamper economic development.

The Generating Utilities reject the incorporation of "full-cost accounting" standards when determining strategies for meeting future energy requirements because they and other utilities already use true cost accounting. They further explain that the proposed "full-cost accounting" factors are ambiguous and incapable of objective quantification.

KIUC believes that externalities such as environmental impacts are best addressed in the context of national policy. KIUC states that for planning purposes, the cost of compliance with various national environmental policy scenarios can be estimated and is appropriately incorporated as an economic variable in the IRP process. According to KIUC, such an analysis of environmental contingencies is part of a prudent planning process and should not require additional statutes.

The Sierra Club believes the Commission should consider the costs to the public of increased health care needs and early mortality caused and/or aggravated by pollutants from power plants in making decisions such as whether to issue CPCNs for new coal-fired generation. The Sierra Club also discusses the need to consider the cost of carbon emissions and discusses life-cycle costs.

GOEP agrees with the reasons set forth by Overland that the Commission should not implement full-cost accounting. GOEP is not aware of any state commission that requires recognition of externalities in resource planning processes. In addition, GOEP points out that federal and state policymakers have successfully chosen certain mechanisms or technology requirements to reduce pollutant emissions to levels considered necessary for public health or environmental protection rather than imposing costs for externalities.

Regarding life-cycle and economic costs of various fuel strategies, GOEP has no objection to a utility's being required to estimate economic costs of technology for reducing carbon dioxide emissions or for capturing or sequestering carbon dioxide, if the Commission determines that doing so is within its jurisdiction. GOEP identifies several entities that have already prepared estimates of rate impacts of the Lieberman-Warner bill and other proposed climate change legislation and notes that Wall Street investment banks have announced that they will require such estimates before investing in utility generating plants. GOEP then cites its belief that there is a great difference between estimating the costs of carbon capture and sequestration and doing life-cycle cost analysis; therefore, GOEP joins other parties and recommends against requiring recognition of externalities.

Comments on Issue (4) of Section 50

(4) Modifying rate structures and cost recovery to better align the financial interests of the utility with the goals of achieving energy efficiency and lowest life-cycle energy costs to all classes of ratepayers.

Overland supports **seasonal rates, time of use (TOU) pricing, real time pricing, and smart metering** but does not support rate **decoupling**. Overland recommends changes to the DSM surcharge statute to provide incentives for energy efficiency and DSM programs, a new surcharge to support generation efficiency and the requirement that all utilities offer a “Green Energy” tariff.

The Generating Utilities, with the exception of Duke Kentucky, agree that there is no need to modify rate structures and cost recovery as related to the goals of achieving energy efficiency and lowest life-cycle energy costs. It is their position that Kentucky’s DSM statute, KRS 278.285, gives the Commission authority to approve reasonable utility-proposed energy efficiency and DSM programs. They believe that for such programs the Commission may also approve: full cost-recovery, recovery of lost sales revenues, and authorize “financial rewards” for implementing cost-effective programs.

Duke Kentucky believes that the Commission should seek expanded statutory authority to review and approve alternative modes of regulatory rate making and cost recovery for utilities, including general rate tracker approval authority. Duke Kentucky also believes that the existing provision in the Commission’s fuel adjustment clause (FAC) regulation, which disallows full cost recovery for forced outages, should be eliminated. Duke Kentucky argues that flexibility needs to be incorporated into the DSM statute to align stakeholder interests and expand energy efficiency as a resource to meet growing customer demand for energy. To accomplish this goal, Duke Kentucky suggests that the Commission recommend that the General Assembly amend KRS 278.285 to permit electric utilities to receive compensation or cost recovery including but not limited to: lost revenues, shared savings, and compensation based upon capitalization of a percentage of avoided costs achieved by or associated with all energy efficiency programs. In addition, Duke Kentucky testified that energy efficiency programs should be flexible to assist customers in addressing rising energy prices in the near term in a manner that provides value from the customer’s perspective. According to Duke Kentucky, customers should not be turned away from participating in an energy efficiency program based on pre-set limits to program funding and participation if the focus is truly on delivering all cost-effective energy efficiency to customers.

Stand specifically proposes modifications to the rate structures of Kentucky’s major natural gas utilities that would allow Kentucky’s smaller commercial and industrial companies, including schools systems and government facilities, the choice to purchase their natural gas supplies through an open, competitive market. Stand believes that such changes would better align the financial interests of the utility with the goals of achieving energy efficiency and lower costs to all classes of Kentucky ratepayers. Stand claims that the Commission has interpreted the mandate of Section 50 to erroneously apply only to Kentucky’s electric utilities.

Stand requests the Commission to mandate that jurisdictional gas utilities file tariffs that will, at a minimum: provide for the aggregate purchasing of natural gas supplies and pipeline transportation services on behalf of eligible customers; lower the minimum threshold to be eligible

for gas transportation service to 2,000 **Mcf/Year**; not require electronic meters or telemetry or other special metering equipment for facilities using less than 10,000 Mcf/Year; and assure that customers electing to use transportation service do not pay any more for service than the non-gas charges they would pay under the comparable sales service tariff. An exception could be a modest administration or aggregation fee that reimburses the utility for their actual costs to provide such transportation services.

KIUC believes the best way to address the objective identified in Issue (4) is to send proper price signals through elimination of inter-class cost subsidies and encourage rate designs that reflect time-of-use energy cost differentials. KIUC is opposed to revenue decoupling as a means to implement the objective in Issue (4). KIUC believes that revenue decoupling is as much a “revenue assurance” mechanism as it is a “conservation enabling” mechanism.

The Sierra Club recommends a form of decoupling. It believes that with the current rate structure in Kentucky, electric utilities’ revenues are based on unit sales (kWh) with rates set assuming a specific level of sales. According to the Sierra Club, that rate structure is devised to recover three costs, (a) the fixed or period costs (in particular, the cost of plant), (b) the variable costs (in particular the marginal cost of generating each new unit of electricity), and (c) the entrepreneurial cost, sometimes referred to as the owners incentive. The fixed costs will be incurred whether any electricity is sold or not. The entrepreneurial cost is a return on that invested fixed cost. The Sierra Club testified that neither the fixed nor entrepreneurial costs are related to the selling of the next additional unit of electricity. The rates are designed to bring in enough revenue for all three of the “costs” noted above. Any rise of sales above the level assumed in setting the rate generates revenue in excess of the amount contemplated by the Commission in setting the rate. Any fall of sales below the level assumed in setting the rate generates a loss in the revenue to cover the fixed costs, which may not allow the utility to service its debt or cover other fixed costs. The Sierra Club believes that a successful DSM program will lessen the sale of electricity. Thus a system that does not modify the rate as sales fall exposes the utility to financial hardship. The utility has increased expenses in administering the DSM program and loses revenue as the DSM becomes more effective.

In its comments, GOEP notes that the Commission and industry have been assessing the potential for modified rate structures to increase incentive for utilities to offer energy efficiency programs and services to all classes of customers. GOEP also notes the assessment of the impediments the fuel adjustment clause mechanism, the DSM surcharge mechanism, and the environmental surcharge mechanism may present to energy efficiency and modifications that might provide new incentives for energy efficiency investment and for compliance with potential greenhouse gas legislation. These include a new surcharge to include and accelerate expenditures associated with efficiency improvements in utility generation facilities and an incentive rate of return on Commission approved projects of this type. GOEP agrees with the implementation of these techniques and incentives by the Commission. GOEP cites a November 2007 report by completed on behalf of GOEP by La Capra Associates Inc. (La Capra)⁵, that specifically addresses the potential financial, social and economic impacts of alternative rate design structures and ratemaking methodologies and presents recommendations that may encourage increased utilization of and investment in cost-effective energy efficiency and other demand response resources.⁶

5. REPORT ON RATE DESIGN AND RATEMAKING ALTERNATIVES AS THEY IMPACT ENERGY EFFICIENCY, Technical Report prepared by La Capra Associates, Inc., prepared for the Kentucky Governor’s Office of Energy Policy, November 21, 2007.

6. La Capra’s recommendations are discussed later in the Other Recommendations section of this report.

DISCUSSION OF RECOMMENDATIONS ADDRESSING SECTION 50 ISSUES

Summary of Recommendations

Of the 28 recommendations developed by Overland in its review of the four Section 50 issues, 27 of those relate directly to the issues and one recommendation arises as a result of Overland’s discussions with the stakeholders. That recommendation is discussed below. The remaining recommendations are discussed relative to the Section 50 issue they were intended to address. The recommendations proposed by the parties are discussed following those relating to Section 50 issues.

Most of the parties provided testimony or comments relative to each recommendation. The following discussion includes a general summary of their testimony or comments. As explained above, GOEP submitted general comments but identified six that it believed should have priority. It believes the Commission will develop a greater level of expertise and a more sophisticated knowledge base to address Overland’s more rigorous recommendations if it first addresses the six prioritized recommendations. Those recommendations are so identified in the following discussion.

The following tables list the twenty-eight recommendations from the Overland Report as well as eleven additional recommendations submitted by GOEP and other parties. It is organized to show the recommendations in numerical order with a brief summary of the recommendations. The table identifies the overall priority as determined by the Commission and indicates whether the Commission believes that it would require: 1) legislative action (enacting a new statute or amending an existing statute); 2) Commission action (promulgating a new regulation or amending an existing regulation); or 3) is permissible under existing law. The Commission has identified certain recommendations, as set forth in the executive summary, which it deems to be most important to promoting energy efficiency while preserving Kentucky’s historically low energy costs. In the following tables, those recommendations are shaded and identified with an asterisk (*) following the recommendation number.

**Table 1
General Recommendation**

Number	Recommendation Summary	Overall Commission Priority	Requires Legislative Action	Requires Commission Action	Permissible Under Existing Law
1	Seek stakeholder input in follow-up DSM initiatives	High	No	No	Yes

Table 2
Recommendations Addressing Issue 1:
Eliminating impediments to consideration of cost-effective DSM

Number	Recommendation Summary	Overall Commission Priority	Requires Legislative Action	Requires Commission Action	Permissible Under Existing Law
2 *	Develop DSM evaluation stds.	High	No	Yes	No
3 *	Develop DSM implementation and verification stds.	High	No	Yes	No
4 *	Revise KRS 278.285 so Commission can require specific programs	High	Yes	No	No
5 *	Industrial opt-out: clarify and standardize	High	No	Yes	No
6	Consider allocating DSM program cost to all customers	Low	No	No	Yes
7	Increase customer education on DSM	High	No	No	Requires utility action
8	Expand rebate and financing programs	Medium	No	No	Yes
9	Accelerate Commission's DSM filing review	Low	No	No	Yes

Table 3
Recommendations Addressing Issue 2:
Encouraging diversification through
renewables and distributed generation

Number	Recommendation Summary	Overall Commission Priority	Requires Legislative Action	Requires Commission Action	Permissible Under Existing Law
10	Establish voluntary RPS target	Low	Yes	No	No
11	Accelerate CPCN process for smaller generation projects	Medium	No	No	Yes
12	Consider 300 basis points premium to invest in renewables	Medium	Yes	No	No
13	Require RFP for all re-sources or, just for renewables	Low	No	No	Yes
14 *	Uniform net-metering and interconnect standards	High	No	Yes	No

Table 4
Recommendations Addressing Issue 3:
Incorporating full-cost accounting

Number	Recommendation Summary	Overall Commission Priority	Requires Legislative Action	Requires Commission Action	Permissible Under Existing Law
15 *	Implement state-wide planning	Low	Yes	No	No
16	Revise CPCN statute to require that DSM be considered first	Medium	Yes	No	No
17	Provide carbon estimates in IRP and CPCN filings	Low	No	No	Yes
18	Require filing of avoided cost data, at least annually	Medium	No	Yes	No
19 *	Do not require full-cost accounting in IRP or CPCN cases	High	No	No	Yes

Table 5
Recommendations Addressing Issue 4:
Modifying rate structures and
cost recovery to align financial interests

Number	Recommendation Summary	Overall Commission Priority	Requires Legislative Action	Requires Commission Action	Permissible Under Existing Law
20	Apply TOU and RTP more broadly to industrial customers	High	No	No	Yes
21	Capitalize costs of DSM; allow 100-300 basis points premium	Medium	No	No	Yes
22	Remove conflict between DSM statute and advertising regulation	Low	No	Yes	No
23	Create a generation efficiency surcharge	Low	No	No	Yes
24	Require utilities to offer residential Green Energy tariff	High	No	No	Yes
25 *	Provide for more Commission Staff for IRP, DSM, CPCN work	High	Yes	No	No
26 *	General Assembly to provide explicit support to Commission to provide financial incentives to utilities	High	Yes	No	No
27	General Assembly should authorize bond securitization	Medium	Yes	No	No
28 *	Cap rates on costs of recommendations for later recovery	Low	No	No	Yes

Table 6
Recommendations Proposed by the Parties

Number	Recommendation Summary	Overall Commission Priority	Requires Legislative Action	Requires Commission Action	Permissible Under Existing Law
29	Eliminate review by Franklin Circuit Court	Low	Yes	No	No
30	Building codes and efficiency standards for electric equipment	High	Yes	No	No
31	Consider rate design that can contribute to energy efficiency	High	No	No	Yes
32	Reconsider approach relating to DSM for industrial customers	High	Yes	No	No
33	Adopt decoupling only after considering all of the impacts	Low	Yes	No	No
34	Study incentive level needed to produce cost-effective DSM	High	Yes	No	No
35	Provide direction to utilities in demand and supply planning	Low	No	No	Yes
36	Energy Efficiency Partners: support the "Save-a-Watt" program	Low	Yes	No	No
37	Allow gas transport service for small non-residential customers	Low	Yes	No	No
38	Consider electric rate discounts for low-income customers	Low	No	No	Yes
39	More weatherization funds for low-income customers	Medium	Yes	No	No

General Recommendation

Recommendation No. 1

In order to properly consider and develop policies, practices and programs adopted by the Commission from recommendations contained in [the Overland Report], input from non-utility stakeholders, as well as the utilities should be solicited. This input may be developed from workshops sponsored by the Commission Staff, or more formal proceedings, as the Commission deems appropriate.

Based upon the participation of stakeholders in the interviews it conducted, Overland believes there is great interest across various stakeholder organizations in the development of programs, practices and policies that may arise from Section 50 of HB 1. Also, as it noted in support of another recommendation, Overland believes that utilities have in the past cooperated only to a limited extent with relevant stakeholders in the development and implementation of DSM programs.

Duke Kentucky agrees with the recommendation and believes that the Commission should continue to obtain input from all stakeholders including utilities and non-utilities. It also believes an open process fosters the development of workable programs and procedures that will be beneficial to all parties involved. To accomplish this, Duke Kentucky supports Commission sponsored workshops.

GOEP also supports the recommendation and encourages the Commission to coordinate with nonregulated utilities that serve Kentucky including both the Tennessee Valley Authority (TVA) and municipalities that offer electric service.

The Commission agrees with the recommendation that stakeholders should be involved in the development of DSM programs before they are filed for approval with the Commission. Upon being filed, stakeholders may be permitted to further participate in the discovery and information gathering process by seeking to intervene. The Commission



must always be cautious to avoid “ex parte” issues, however. When specific issues are considered within filed cases, procedural safeguards must be observed. Broader, industry-wide policy issues are typically considered as part of Administrative cases that also allow for participation by affected parties within the context of our rules and regulations. Commissioners and Commission staff have frequently attended and participated in conferences and seminars on energy efficiency and will continue to do so in the future.

Recommendations Addressing Issue 1: Eliminating impediments to consideration of cost-effective DSM

The Commission has identified four recommendations developed to address perceived impediments to Issue 1 as being most important. Three of those, Recommendation No. 2, Recommendation No. 3, and Recommendation No. 5 will require the Commission to promulgate a new regulation to impose evaluation standards, verification standards, and clarification of the phrase “energy intensive processes” as it is used in KRS 278.285. Recommendation No. 4 will require the DSM statute, KRS 278.285 be amended to authorize the Commission to require jurisdictional utilities to adopt specific DSM programs in appropriate situations.

Recommendation No. 2

The Commission should develop a set of standards for how to evaluate the benefits of proposed DSM programs. Such standards should broadly specify the range of benefits to be recognized and the appropriate analytical approaches for evaluating future benefits. The standards should recognize the variety of benefits created by DSM, while also acknowledging that DSM cannot be substituted for power plant development on an undifferentiated basis. The standards should require the development and application of screening models sophisticated enough to systematically compare and contrast the relative attractiveness of alternative DSM options in different settings.

Overland believes that compared to other states and federal regulators, the Commission has not been sufficiently prescriptive as to the screening models to be used by utilities in evaluating proposed DSM programs. The Commission, according to Overland, has not asked to review program performance after-the-fact.

Duke Kentucky supports the development of standards for evaluation of DSM programs and measurement and verification guidelines, providing the guidelines do not limit the utility’s ability to consider all reasonable alternatives. Duke Kentucky believes that clear evaluation criteria would assist the Commission in approving possible DSM programs, and would also benefit utilities as they look to design and implement new programs. However, the standards and guidelines should not be so strict as to require consideration or adoption of a particular program or of one option over another.

In his comments, the AG agrees with the recommendation and suggests the Commission consider whether the use of “engineered savings” or actual results in evaluating program impact is appropriate. The AG notes that utilities have claimed that obtaining actual savings would be burdensome, expensive, and unreliable. The AG, however, maintains that the utilities already possess usage data on the majority of their customers. Therefore, the AG argues that actual results should be used in the evaluation to verify that claimed savings bear some relationship to actual savings. The AG also argues that the Commission should adopt standards for evaluating vendors offering measurement and verification services. A list of “approved vendors” of

such services could be maintained by the Commission. The AG believes such a list would ensure that evaluations were being performed uniformly and lend confidence that results were accurately, fairly and consistently reported.

LG&E and KU state that in previous DSM cases the Commission has established the “**California Tests**” as the standard for evaluating the cost-effectiveness of DSM and energy efficiency programs. They note that these tests are accepted and established industry standards. LG&E and KU believe that regardless of whether the Commission determines to adopt additional or different criteria for evaluating DSM and energy efficiency programs, it already possesses the authority to establish such criteria under the DSM Statute, KRS 278.285, and no additional legislation is needed.

Although it did not provide specific comments on this recommendation, this was one of the six recommendations GOEP recommended the Commission give priority.

With some qualification, the Commission supports the development of standards to evaluate the benefits of proposed DSM programs. The Commission plans to promulgate a DSM regulation which defines basic evaluation standards, but also allows flexibility, including a broad reading of cost-benefit analyses and permitting the utility to request to deviate from the regulation. As the utilities point out, the Commission has essentially established the “California Tests” cost-benefit analyses to evaluate DSM offerings but has also considered other approaches. The Commission, however, will be cautionary in its approach in order to maintain appropriate flexibility. In addition, the Commission expects to pursue up-front input from both utilities and members of their collaboratives or advisory groups and other stakeholders as necessary.



Recommendation No. 3

The Commission should develop or adopt recognized measurement and verification guidelines, so that actual results of DSM programs can be independently assessed and validated. In order to legitimize program continuation, DSM program benefits should be linked to measured and verified achievements, as much as practically possible.

According to Overland, policymakers and regulators are generally demanding more accountability and performance monitoring of DSM programs following their implementation. There appears to be limited measurement and verification of programs in Kentucky, which, in Overland's view, needs to be rectified.

Duke Kentucky believes this recommendation is reasonable provided any new guidelines do not constrain the utilities' flexibility or ability to consider innovative approaches to energy efficiency.

The AG agrees with this recommendation and states that independent evaluation criteria are needed for a relevant analysis of DSM savings.

The Commission believes a new DSM regulation should include broadly accepted measurement and verification methods, which will allow for the continuation of the flexibility that currently exists. Improperly developed measurement and evaluation methods could result in unreliable, after-the-fact evaluations of DSM programs. As with other changes requiring a regulation, the Commission will be cautionary in its approach in order to maintain appropriate flexibility. In addition, the Commission expects to pursue up-front input from both utilities and members of their collaboratives or advisory groups and other stakeholders as necessary.

Recommendation No. 4

The Commission should consider the need to revise KRS 278.285 to expressly authorize the Commission to act on its own initiative or direction to investigate and direct utilities to implement particular DSM programs, the costs of which would be recovered by the surcharge.

To assure that Commission policy directives are being properly implemented, Overland believes the Commission should have increased latitude in its exercise of its authority concerning utility DSM programs.

Duke Kentucky testified that the utility, not the Commission, is best suited to determine which programs should be implemented in a given utility's service territory. It believes any intent to impose a "one-size-fits-all" approach will be problematic.

Given the Commission's existing ability to approve and implement a broad array of programs under the existing DSM statute, LG&E and KU believe there is little if any need to revise the statute as recommend by Overland. The Companies note that as the Commission recognized when implementing the Earnings Sharing Mechanism "incentives will only work if they are fully supported by the utility."

In its brief, Kentucky Power questions the need for revisions to the DSM statute given the Commission's general authority to investigate and enter orders with respect to any practice or act affecting or relating to the service of the utility that is insufficient or inadequate as authorized by KRS 278.260(1). Kentucky Power also claims that the proposal is at odds with the bottom-up approach reflected in KRS 278.285.

The AG comments that some DSM programs offered by utilities are tailored to fit the specific needs of their demographic areas; however, there are programs that are common enough among the industry to warrant that the Commission order their implementation by all jurisdictional utilities. The AG believes the public would benefit from implementing program standards which would ensure that consistent services are offered by utilities throughout the state. Such standardization would assist in evaluating program results with the addition of standardized reporting requirements.

GOEP included this recommendation among those it suggested the Commission give priority, implying that GOEP supports the need for the Commission to have such direct authority. While the Commission has exclusive and plenary jurisdiction with regard to utility rates and services, the Commission has limited that authority in certain instances, including the DSM statute, KRS 278.285.. The Commission believes KRS 278.285 should be revised to specifically authorize the Commission to require utilities to implement specific DSM programs. Such revision is needed in order to insure that broadly accepted, cost-effective programs are not being overlooked by a given utility. It is necessary for the Commission to have such authority in order to insure that distribution cooperatives implement programs that have been approved for their generation and transmission cooperative. As DSM becomes more important, the Commission should not be limited to merely approving what a utility and its collaborative or advisory group have proposed.

Recommendation No. 5

Rules governing industrial customer exclusion from DSM program participation should be clarified, standardized, and uniformly applied. It is important that customers who seek to opt-out of the DSM program make a showing of their own energy efficiency efforts, before they are allowed an exemption from the DSM surcharge and related programs.

Overland found that almost all eligible industrial electricity users have opted out of utility-sponsored DSM programs. The utilities have largely stopped offering programs tailored to the needs of large industrial customers. As a result, Overland claims that roughly forty percent of energy consumption by customers of jurisdictional utilities is effectively eliminated from the scope of utility-sponsored DSM programs.

Duke Kentucky agrees with this recommendation with some qualifications. It believes the Commission should require some form of self-certification for industrial customers. Duke Kentucky also argues that to the extent an industrial customer opts out of utility sponsored programs, it should not be able to share in the system-wide benefits achieved and utilities should be able to take this exclusion into consideration as part of the cost-of-service study performed in a base rate case.

KIUC states that the recommendation ignores how customers who have opted out of DSM programs would be treated if the Commission changed its interpretation of KRS 278.285(3) and allocates all DSM program costs across all customer classes. KIUC believes allocating DSM costs to opt-out customers would be inequitable because these customers do not receive rate-payer-funded assistance for their DSM efforts, but would be forced to pay for the assistance received by other customers. KIUC can support a self-certification process for large industrial customers that wish to opt-out of utility sponsored DSM programs. KIUC believes that self-certification should be applied to customers that meet a certain threshold in terms of energy use, but that smaller industrial customers could be subject to greater scrutiny before being allowed to opt-out.

The Sierra Club cites the report issued by the Kentucky Pollution Prevention Center⁷ in the fall of 2007, which found the greatest need for energy efficiency programs was in the industrial sector. According to the study, eighty-one percent of the energy savings that could be realized according to a minimally aggressive scenario would come from the industrial sector. Because a large percentage of the Commonwealth's electricity is used in industrial processes, it is of major importance that these processes be energy efficient.

The AG notes that some large industrial customers are very focused on energy consumption and take steps to employ energy saving measures in their manufacturing processes. However, the AG believes a reporting requirement to verify exclusion from the DSM tariff is appropriate and should cause little customer inconvenience. According to the AG, with roughly half of the electricity in the Commonwealth being consumed by industrial customers, to exclude the entire class makes little sense. The AG stated that while the elimination of the statutory exclusion is the prerogative of the legislature, the Commission should consider whether the exclusion for industrial customers be re-examined.

GOEP included this recommendation among those it suggested the Commission give priority implying that GOEP supports the need for the Commission to re-examine application of the industrial "opt out" provision.

The Commission believes that a definition of "industrial customers with energy intensive processes" should be developed and included in the forthcoming DSM regulation discussed earlier. Such customers should be required to certify their standing to the utility and the utility should be required to certify the status of its customers to the Commission. The Commission believes that allowing the current application of the industrial "opt out" provision of the DSM Statute to continue could result in the failure to capture a significant amount of energy savings. Self-certification by industrial customers to their retail electric suppliers should provide the incentive to assess the efficiency of their process. The Commission believes that it currently has the authority to require self-certification but will include the self-certification requirement in the new DSM regulation. The Commission will also pursue up-front input from utilities, industrial customers as well as the members of the utilities' collaboratives or advisory groups and other stakeholders as necessary.

⁷ AN OVERVIEW OF KENTUCKY'S ENERGY CONSUMPTION AND ENERGY EFFICIENCY POTENTIAL, the Kentucky Pollution Prevention Center, University of Louisville and the American Council for an Energy-Efficient Economy, prepared for the Governor's Office of Energy Policy, August 2007.

Recommendation No. 6

As new DSM programs are brought before the Commission that clearly reduce system costs, it should consider if such programs should be more properly allocated to all jurisdictional customers.

Overland believes that a major component of expanded DSM programs may focus on demand reduction. If the scale of such programs is sufficient to delay major supply-side capacity additions, Overland believes the benefits of the demand reduction benefits all customers by eliminating the incremental cost of generating capacity that would otherwise be assigned to all customer classes. Under these circumstances, it would be reasonable to assign residential or commercial programs to all customer classes, as all customers benefit from lower generation costs due to the avoided marginal cost of the capacity addition.

Duke Kentucky supports this recommendation with one caveat. It believes that to the extent DSM system cost savings are allocated, customers who have opted out of paying for such DSM programs should not benefit from the reductions. Only customers who have paid for the programs should share in the savings. Duke Kentucky claims to do otherwise creates a subsidy to the detriment of the customers who paid for the programs.



KIUC opposes such an allocation on the grounds that industrial customers' DSM programs reduce system costs also benefiting all customers yet other customers are not charged any of the cost of this customer-sponsored DSM. Therefore, according to KIUC, equity requires that industrial customers not be charged for the cost of utility-sponsored DSM programs that may reduce system costs.

The Commission generally supports the recommendation recognizing that the end result of some programs may be of such magnitude that all customers benefit. The Commission believes that it currently has the authority to implement this recommendation as appropriate on a case-by-case basis. Should this require modifying the DSM statute or including further explanation in a new regulation, the Commission will pursue such action. Rejecting the recommendation would permit customers that do not pay for DSM programs to benefit from the reduced capacity costs caused by the delay or elimination of additional generation.

Recommendation No. 7

Greater efforts should be made to make utility customers aware of energy conservation and DSM programs. Additional utility resources should be committed to customer education programs sponsored by the utilities or independent third parties. The Commission may also release public information communications that support energy efficiency programs.

According to Overland, there are opportunities to work with educational institutions, non-governmental organizations and community organizations to increase the awareness of conservation and energy efficiency for residential and small commercial users. Overland believes part of the problem with DSM implementation may be educating individual participants, and understanding the cost savings they will achieve with DSM.

Duke Kentucky agrees that raising customer awareness is important, but states that raising awareness does not necessarily translate into customer action and real results that can be treated like supply-side resources. Duke Kentucky believes a fundamental change to the energy efficiency business model that ties DSM results to utility incentives will drive utilities to go beyond consumer awareness to develop offers that customers value enough to take action.

LG&E and KU believe that greater efforts to increase the awareness of customers about the DSM and energy efficiency programs they offer should be made. They state that before pursuing involvement of third parties in providing customer education on such programs, the effort must be coordinated with, and perhaps supervised by, the utility. LG&E and KU claim that utilities are likely to be most familiar with both their customers and their programs and, therefore, best suited to provide customer education. They state the involvement of independent third parties should be coordinated with the utility to ensure the quality and accuracy of the information provided, and to ensure there is no unnecessary duplication of efforts. They believe the Commission, utility, and independent third parties should also establish clearly how the third parties' efforts are to be funded.

The AG interprets the recommendation to suggest that additional efforts be made to inform the general public about the various DSM programs and services offered by jurisdictional utilities and the benefits to participants. With that understanding, the AG generally supports the recommendation. However, these efforts should be targeted to increase enrollment in specific programs. According to the AG, generic messages which encourage energy conservation but do not relate to a specific program are not appropriate uses of ratepayer funds.

The Commission believes that utilities should make greater efforts to inform and educate consumers about energy conservation and DSM programs. Regardless of how effective such programs might be, if consumers are not adequately informed and educated as to their availability, purpose, and effectiveness, the programs will *not* perform to their full potential. The Commission will evaluate the utilities' proposed education efforts as part of its review of DSM programs and to the extent that it is practical, the Commission will encourage such education.

Recommendation No. 8

Assuming that proper utility incentives and recovery mechanisms are in place, utilities should consider providing or expanding rebates or financing programs to support customer investment in energy efficiency and DSM programs; especially those that are likely to reduce peak demand. A set of pre-approved technology types may be promoted to customers through education and incentives showing the expected payback characteristics for each technology.

Overland claims that research has shown that customers are more likely to make energy efficiency improvements decisions if there are positive savings when their monthly energy costs are netted against the monthly costs of the improvements.

Duke Kentucky states that proper incentives and recovery mechanisms are key drivers to its ability to offer any DSM or energy efficiency program. Duke Kentucky agrees that incentives should be used to encourage utilities to be proactive in implementing energy efficiency programs through standard service offers.

The AG believes that the use of customer incentives should be carefully considered prior to approval by the Commission. While incentives may be appropriate as part of a specific DSM program, the use of incentives should be examined to determine whether the incentive plays any part in encouraging customer participation in an individual program and the appropriate amount of any incentive to be offered. Because incentives are financed through money collected from ratepayers, the AG believes the Commission should ensure that such incentives are properly and reasonably used by any specific program.

The Commission generally supports the use of rebate or financing programs. The Commission believes that the use of rebate or financing programs helps the utilities capture a significant amount of energy savings that might not otherwise be available. However, any expansion of such programs must continue to be cost-effective and will be considered on a case-by-case basis.



Recommendation No. 9

The Commission should consider the need to revise the current DSM application and approval process to accelerate the procedural timeline for projects below a defined funding level. The standard of review for modifications to current programs, or programs under a specified budget amount, should be further streamlined to accommodate increased participant interest in successful programs.

Overland claims that there have been instances where participant response to a new DSM program exceeded expectations but due to approved budget limitations, and the annual cycle for seeking DSM program changes, the program could not accommodate additional participants. On other occasions, Overland noted that approved rebate incentive programs could not be expanded without further review by the Commission.

Duke Kentucky believes such a revision is reasonable provided it does not constrain utilities from considering innovative approaches to energy efficiency and becoming leaders in program development.

The AG disagrees with the acceleration or streamlining of the DSM review process. The AG believes it is not necessary given that the Commission has great latitude in setting the procedural schedule for any specific filing.

The need to expedite certain applications should be considered on the basis of the facts of each case. The Commission believes that any acceleration or streamlining still requires due process to be afforded to all interested parties. Applications requesting expedited treatment should not be supplemented or amended. The Commission always tries to accommodate requests to expedite certain proceedings if it is appropriate to do so and will continue this practice when properly warranted.



Recommendations Addressing Issue 2: Encouraging diversification through renewables and distributed generation

The Commission determined that Recommendation No.14 was the most important of the recommendations developed to address Issue 2. That recommendation is for the development of uniform net metering and interconnection standards. As discussed in more detail below, the Commission is already implementing the recommendation pursuant to a directive from the General Assembly's recent passage of SB 83 in the 2008 Regular Session.

Recommendation No. 10

The Commission may wish to consider whether to recommend an RPS target to the General Assembly, consistent with similar initiatives in many other states. If it does so, we recommend that the target be voluntary, providing financial incentives for Kentucky utilities that choose to comply. The target must be realistic and cost effective in light of Kentucky geological constraints, with a range of perhaps five to ten percent of energy served, graduated to 2020.

Overland does not believe it is practical to recommend mandatory requirements like a carbon cap and trade program, carbon tax, or RPS for Kentucky at this time. Instead, Overland recommends that more subtle adjustments be made to the IRP process so that utilities start to consider renewables more thoroughly as potential alternatives. According to Overland, the costs of conventional generation have the potential to increase in the future (for example, coal-fired generation costs can increase due to carbon legislation, while gas-fired generation costs can increase due to gas and oil price volatility). Overland sees fewer risks in renewables and suggests that a broader analysis similar to its Portfolio Analysis concept be utilized in the IRP.

Based on the responses to data request, Overland notes that utilities are not necessarily opposed to renewable power options or mandates. However, an RPS should be both practical, affordable, and in the public interest. The potential for renewables, as well as other carbon limiting technologies should be considered in assessing any RPS and an appropriate timeline to reach the RPS.

In his comments, the AG stated that he takes no position on this recommendation because nearly all of the jurisdictional utilities are already pursuing RPS options on their own accord.

Each of the Generating Utilities objected to mandatory, statewide renewables and distributed generation standards in Administrative Case No. 2007-00300⁸, and collectively reiterated that position in this case. The Generating Utilities would not oppose the establishment of a task force to study the availability, advisability of, and the need for, additional renewable and distributed generation resources in Kentucky such as the task force proposed in recent legislation.⁹

8 Administrative Case No. 2007-00300, Consideration of the Requirements of the Federal Energy Policy Act of 2005 Regarding Fuel Sources and Fossil Fuel Generation Efficiency, Order dated August 2, 2007.

9 House Bill 299 failed to pass the 2008 Regular Session of the General Assembly, but would have directed GOEP to solicit input from electric utilities and suppliers of retail electric power, environmental and conservation groups, representatives of industry, commercial, institutional, and residential customers and the AG in addressing the adoption of a renewable-energy and energy-efficiency portfolio standard.

In their briefs, the Generating Utilities generally indicated they were not aware of anything that would generally prevent them from developing generation capacity from renewable sources, distributed generation sources or cogeneration sources in Kentucky. However, they also indicated that such capacity should only be considered to the extent that it represents the least cost resource.

Kentucky Power, in its brief stated that it believes that mandatory statewide renewable and distributed generation standards are unnecessary and would represent the arbitrary imposition of higher costs on ratepayers. It found that Overland strikes the appropriate balance recommending that any renewables target be voluntary and that a premium rate of return be allowed for utility investments in renewables.

The Sierra Club believes that the Commission does not have policies which explicitly or implicitly encourage the diversification of utility energy portfolios through the use of renewables and distributed generation. It believes that this serves as an impediment to the diversification of Kentucky's energy portfolio and the use of renewables. The Sierra Club cites a report co-authored by one of its witnesses that states that the current situation fails to recognize the multiple societal benefits offered by renewables and distributed generation. The Sierra Club believes that the benefits are so numerous and powerful that it would be appropriate for the Commission and General Assembly to develop statutes and policies that would not only encourage but mandate the diversification of utility energy portfolios through the use of renewables and distributed generation.

The Sierra Club also believes that Kentucky's net metering law and interconnection practices present a number of obstacles and recommends that Kentucky adopt uniform net metering and interconnection rules that apply to all utilities throughout the state including the municipals and TVA distributors. In addition, the Sierra Club believes the



Commission should establish policies that support the development of renewables and diversification of the state energy supply, reflecting a new priority on renewables versus coal fired power plants.

The Sierra Club identified a **Renewable Portfolio Standard (RPS)** and a **Public Benefits Fund (PBF)** as two important strategies used to develop renewables in other states. The Sierra Club noted that an RPS could include a solar set-aside that would provide a very strong push for utilities to invest in solar energy. A PBF refers to a funding mechanism with a stream of revenue, usually collected through a small surcharge on consumer electricity bills, which is sometimes known as a System Benefits Charge. These funds are used to support energy efficiency, renewable energy, energy research and development, and low-income energy assistance projects.

According to the Sierra Club, a Public Benefits Fund would provide a dependable stream of resources to finance state wide investments in renewable energy and energy efficiency. Programs that could be supported by such a fund could include (but would not be limited to):

1. Low-income home weatherization programs;
2. Energy efficiency in State and local government buildings and school facilities;
3. Low-interest loans for renewable energy and energy efficiency projects;
4. Financial incentive programs (such as rebates) for residential and commercial renewable energy investments such as solar, wind, and hydro;
5. Financial incentive programs for Energy Star/energy efficient appliances, lighting and equipment;
6. Financial incentives for Energy Star home and commercial building construction; and
7. Public education programs to raise awareness of energy efficiency, renewable energy, conservation, and related issues.

Finally, in its brief, the Sierra Club recommended that Kentucky should follow the national “25 x 25” campaign which has the goal of meeting twenty-five percent of the nation’s energy needs from domestic renewable energy resources by the year 2025. It believes that Overland and GOEP underestimate the potential for renewable energy in Kentucky and that implementing a PBF would allow Kentucky to make a concerted effort towards achieving energy efficiency and renewable energy goals.

GOEP agrees that any renewable portfolio standard be voluntary, realistic and cost effective in light of Kentucky geological constraints. It believes a mandatory requirement in Kentucky would impose undue burdens on ratepayers, especially those on low or fixed incomes. As the report states, GOEP believes that Kentucky has very limited wind, solar, or hydropower potential. Consequently, utilities in Kentucky would have to obtain renewable-generated power from other generators at high prices relative to the cost for a utility that has access to renewable resources on its own system and the cost will be very high relative to low cost coal-fueled generation. Also as noted by Overland, GOEP believes that proposed climate change legislation will result in increased costs for electricity generation and, in Kentucky which predominantly relies on coal-fired generation; it would be very harmful to add the costs resulting from a mandatory RPS.

The Commission does not support the imposition of an RPS target at this time. This recommendation raises issues about whether there should be RPS targets; whether RPS targets should be voluntary; and whether financial incentives should be provided for development of renewable resources. The Commission believes that currently there is minimal opportunity for developing a significant degree of economic renewable resources in Kentucky (relative to other states) and the existing renewable resources are less reliable than traditional fossil-fueled generating units. With the imposition of carbon rules, the industry will be driven to the development of a broader array of resources including more reliable and cost effective renewables.

The Commission also disagrees with the Sierra Club’s recommendation to establish a PBF. The Commission agrees with Kentucky Power’s position that a PBF, unlike a DSM surcharge, where the recovery is based on specific costs, will likely move the decision-making and funding away from those directly affected.

Recommendation No. 11

The Commission should consider the need to provide for fast track applications for small-scale generation, possibly as part of a more formalized Standard Offer Contract process.

Overland noted that the siting process currently takes up to five months in Kentucky and that it does involve a stakeholder process. Overland recognizes that this timeframe is within the normal range for siting processes, based on experience in other states. In fact, many states have multiple agencies involved in approving siting, allocating permits, and granting approval for ratemaking purposes. Some states do have fast-track processes, that have helped new development in general, but not specifically projects involving new renewables.

Duke Kentucky supports the recommendation regarding a “fast track” for applications for small-scale generation. Duke Kentucky would expand this recommendation or at least suggest a similar fast track process for creation of new, or modifications of existing energy efficiency programs.

Although there is little discussion concerning this recommendation by the parties, the Commission does not support implementation of a fast track siting process. Overland states that the current siting process in Kentucky can take up to five months; however, in practice, the actual process is usually much quicker. The Commission believes that expediting the process could limit the current stakeholder/public involvement and implicate fundamental due process concerns. In addition, the Commission believes that a “fast track” process does nothing to address the issue set forth in Section 50 of the 2007 Energy Act to encourage diversification of utility energy portfolios through the use of renewables and distributed generation. There is far greater harm in rushing siting decisions than in taking, at most, five months to reach a decision.

Recommendation No. 12

To properly compensate utilities for increased renewables project risks, and to attract utility commitments to these investments, the Commission should consider allowing a premium of up to 300 basis points for these investments over the latest authorized rate of return.

Overland noted that incentives for renewable energy are based primarily on the recently enacted HB 1. According to HB 1, the bulk of funding for the incentives is to be provided through a \$100 million bond issuance which will also provide incentives for biofuel facilities. Corporate tax credits are provided for certain qualifying types of renewable projects such as: solar (thermal and photovoltaic with capacity at least 50 kW), wind, biomass, landfill gas and hydroelectric (at least 1 MW) resources, whose output is sold to unrelated parties, and for which there is at least \$1 million in capital investment. Potential incentives include:

1. up to 100 percent of the Kentucky income tax or limited liability entity tax;
2. an incentive of up to 100 percent of sales and use tax on property bought; and a wage assessment of up to four percent for associated employees, which then can be taken as a credit against corporate income tax.

Total benefits realized through these incentives may not exceed fifty percent of the capital investment according to Overland's interpretation of HB 1.

Overland believes that the financial community considers required investment in renewables as neutral to negative in terms of credit quality impact. Therefore, aside from potential tax incentives that may induce investment in renewables projects, Overland believes that utilities should be compensated for the incremental financial and operating risks associated with these resource options. According to Overland, while overall generation portfolio risk may be reduced by diversification, specific project risks are not.

Duke Kentucky discusses the recommendation in its brief to argue for its "Save-a-Watt" program under which utilities are compensated via recovery of and a return on a percentage of the costs that are avoided through the operation of DSM and energy efficiency programs. LG&E and KU generally favor incentive returns for energy efficiency programs, but are opposed to mandatory renewables standards.

In its comments, the AG expressed its disagreement with this recommendation. The AG notes that the Generating Utilities are already pursuing renewable energy sources because the risks associated with conventional generation sources are rapidly increasing.

The Sierra Club also states that alignment of utility financial interests with goals of energy efficiency and diversified generation is a pressing need and believes that Duke Kentucky's "Save-a-Watt" program deserves investigation.

The Commission does not recommend awarding any significant premium for the development of renewable resources absent express legislative direction. To do so is not practical based on the traditional methods of developing an appropriate revenue requirement for utilities. For now, the Commission believes that any financial incentives should be provided through grants, tax credits, low interest rate loans or some other similar method. The Commission also notes its belief that KRS 278.190 would need to be amended to allow the Commission to award such a premium.



Recommendation No. 13

One of the solutions to the renewable market pricing problem could be a Commission requirement for utilities to use an RFP process for all resources, based on IRP, or just renewables, where the contracts signed with the winners would include a capacity component in the remuneration.

Overland believes that one of the issues that impact on the economics of new power projects, including renewable power plants, is the limited opportunity to recover all costs, when no contracting is available; or when the contracting is available for avoided energy costs only. The inability to recover the fixed costs leads to difficulties in securing financing for the new projects.

Duke Kentucky agrees with Overland that the limited opportunity to recover costs impacts the willingness of both utilities and developers to pursue new power renewable projects. However, Overland's RFP recommendation does not address the problem, which is the ability to recover all costs (both demand and energy) associated with any new project. Mandating an RFP process does nothing to solve the cost recovery problem. Duke Kentucky also believes that a formalized RFP process for all new resource additions is unnecessary and, if the RFP is not flexible it could have the effect of adding cost rather than reducing cost for customers. Finally, Duke Kentucky believes that RFPs may not be the best tool for every circumstance and the utility is in the best position to determine whether an RFP process would be beneficial.

As part of their current resource acquisition process, the Generating Utilities generally issue appropriate RFPs that allow for the provision of renewable resources as well as other resources. The Commission believes that the pricing for smaller investments can be addressed by properly setting utilities avoided cost rates. In addition, the Commission has seen no evidence that there is a renewable market pricing problem other than in the context of cost-effectiveness. The Commission, therefore, does not support the requirement that generating utilities be required to implement this recommendation.

Recommendation No. 14

Uniform standards, at least by utility, for net metering and interconnection should be developed, as set forth in a tariff. Current limits on technology restrictions should be reconsidered, as well as limits on total participation levels. Finally, current limits on generating capacity should also be relaxed to facilitate the potential for development of distributed generation projects, sizing projects appropriate to each technology.

At the time Overland issued its report the current net metering statute (KRS 278.465) allowed for only photovoltaic systems with 15 kW or less to qualify for the net metering service offered by utilities. Overland found net metering service was practically nonexistent. Overland noted that LG&E and KU had one customer in a pilot program that generated about thirty percent of its own energy needs and reduced its own coincident peak by almost fifty percent. Big Rivers, Duke Kentucky and Kentucky Power reported no net metering customers. EKPC had five net metering customers, including one commercial customer. According to Overland, interconnection costs generally included metering equipment at a cost of \$400-\$800.

LG&E and KU testified that they already have net metering and interconnection tariffs. They stated that their tariffs do not limit net metering technology strictly to solar power, but also include wind and hydroelectric generation sources. As result, they argued there was no need to amend either the DSM statute or the utility tariffs. In their brief, LG&E and KU argued that Kentucky already has uniform interconnection standards for distributed generation in the Generating Utilities' net metering and Qualifying Facility tariffs. They also argued that in recognition of the recently enacted Senate Bill 83 (SB 83), the Commission should include electric utilities, suppliers of retail electric power, representatives of customers, and the AG when developing the guidelines for net metering and interconnection.

In his comments, the AG noted that the responses to the data requests and as noted within the Overland report, it appears that there is little or no customer participation or interest at this time.

Overland's concern was largely negated by the 2008 General Assembly's passage of SB 83, which amended the net metering statute to allow for most forms of renewables and increased the allowable limit up to 30 kW. SB 83 also directed the Commission to develop net metering and interconnection guidelines. In May 2008, the Commission initiated Administrative Case No. 2008-00169¹⁰, which will eventually result in the development of net metering and interconnection guidelines. The Generating Utilities and rural electric distribution cooperatives were made parties to the administrative proceeding and individuals or groups with a special interest in net metering were encouraged to participate. Although a final determination has not been made at this time, the Commission will propose appropriate regulations, if necessary, at the conclusion of that Administrative Case.



10 Administrative Case No. 2008-00169, Interconnection and Net Metering Guidelines for Retail Electric Suppliers and Qualifying Customer-Owned Generators, Order dated May 30, 2008.

Recommendations Addressing Issue 3: Incorporating full-cost accounting

The Commission identified Recommendation No. 15 and Recommendation No. 19 as the most important of the recommendations developed to address Issue 3. Recommendation No. 15 states that statewide planning is neither practical nor beneficial. Recommendation No. 19 states that the Commission should not require the recognition of environmental or public health externalities in the IRP or CPCN processes. The Commission firmly agrees with both recommendations, which are discussed in more detail below.

Recommendation No. 15

We do not believe that Commission responsibility for statewide planning is either practical or particularly beneficial, given the reality that utilities, regulated or not, do not engage in Kentucky-level system planning that would necessarily result in any joint development or operation of generation resources.

Overland states that utilities engage in and cooperate on many industry-wide and regional efforts such as system reliability, research and development, and best practices. However, investor-owned utilities operate on an inherently competitive basis, largely independent of each other. Strategic planning among these entities varies dramatically, and such differences clearly exist among the regulated utilities (and their holding company parents) within the state of Kentucky. Overland states that periodic assessments of Kentucky energy resources are appropriate.

GOEP and the regulated utilities in Kentucky agree with Overland's recommendation. GOEP does not believe statewide planning is practical due to lack of coordination with unregulated interests and the multi-state structure of various utilities operating in Kentucky.

Duke Kentucky states that statewide resource planning is inefficient and may not necessarily align state priorities with what may be in the best interests of the specific utility or its jurisdictional customers.



Kentucky Power in its brief, states that because of differences in population and terrain of their respective service territories, and in the case of Kentucky Power, affiliated corporate resources; integrated resource planning and demand-side management are best addressed at the utility specific level. Kentucky Power is part of the AEP System East Pool Agreement and participates in the IRP process throughout AEP's combined seven state region. Kentucky Power's obligation to serve does not extend beyond its jurisdictional footprint and any effort to engage in a state-level IRP process would be cumbersome and potentially conflict with AEP's current seven state regional planning process involving Kentucky Power. However, if the RTO and other operational details are resolved, Kentucky Power is open to, and believes the Commission should evaluate, joint development of generation resources, particularly for construction of higher cost emerging technologies such as advanced coal and carbon capture and storage.

The Commission agrees that statewide planning is neither practical nor beneficial because the jurisdictional investor-owned utilities operate in wholesale markets on a competitive basis and have different strategic plans. In the early years of the IRP process, a summary of the individual utilities' plans was published but it is inaccurate to refer to that document as a statewide plan. The Commission has considered the adequacy of generation and transmission on a statewide basis in two administrative cases. Currently, there is general agreement by all parties other than the Sierra Club that the current IRP process is sufficient for planning resources. Statewide planning would not be practical due in large part, to the limitations on information sharing among utilities that operate in competitive wholesale markets and the multi-state structure of Kentucky Power. Statewide planning also fails to address any of the four issues set out in Section 50. In addition, the lack of statewide planning does not present an impediment to any Section 50 issue. The Commission will continue to review the adequacy of generation and transmission on a statewide basis as necessary and continue to consider the feasibility of joint development of generating resources.

Recommendation No. 16

The current statute defining the CPCN process should be modified to require the consideration of demand and supply-side alternatives including: IPP and merchant power options; energy efficiency and DSM programs; and renewable alternatives.

Overland included a discussion identifying several renewables commitments that have been undertaken or that are planned by the Generating Utilities without the recommended guidelines. However, Overland believes the Commission should issue guidelines that clarify and broaden the current CPCN process (KRS 278.020) so that supply-side and demand-side alternatives are considered. Alternatively, the CPCN process can be linked to the extensive analysis from the IRP filings. In either case, the Commission will have a more robust basis for evaluating proposed projects.

The Generating Utilities believe that the current planning and certificating processes are adequate to ensure the utilities consider such programs. The IRP regulation 807 KAR 5:058 section 8(4)(a)(6), requires each generating utility to provide the reductions or increases in peak demand from new conservation and load management or other demand-side management programs.

The Generating Utilities are not aware of any such requirement included in the certificate process; however, as stated in their testimony, the Generating Utilities generally seek CPCNs in accordance with their established IRPs and they believe that the IRPs provide an appropriate forum for energy efficiency and DSM considerations.

Duke Kentucky does not believe this recommendation is necessary. Duke Kentucky already does this as part of its resource planning and in determining whether to pursue a CPCN. Duke Kentucky suspects that all jurisdictional utilities perform similar analyses. Duke Kentucky believes that the current CPCN requirements are sufficient.

The Sierra Club advocates making use of monetized health or environmental externality figures in both IRP and CPCN proceedings to enable energy efficiency and renewable energy programs to compete against coal-based capacity.

As discussed earlier, GOEP cited its 2007 La Capra report that included a recommendation that the Commission should provide firm direction to the utilities in IRP, DSM and environmental compliance proceedings, utilizing the same information that is or will be used in CPCNs. La Capra also recommended that the Commission should review and make enforceable its findings regarding the IRP and DSM programs. According to La Capra, the IRP process should ensure that potential reductions in demand from building codes changes, customer initiated energy efficiency and DSM programs are considered before the utilities plan to build expensive new generation facilities.

Under existing law, an applicant must demonstrate to the Commission that a proposed generating resource is both necessary and will not result in wasteful duplication. As part of this inquiry, an applicant is required to show that it has considered all reasonable alternatives. Thus, current law already requires an applicant to consider each of the resources identified by the recommendation. If the recommendation was adopted, the Commission's discretion could be construed as being limited to only considering those specific alternatives that are listed in the recommendation. Thus, current law already permits a broader review than that set forth in the recommendation. Implementing the recommendation is therefore unnecessary.

With regard to La Capra's concern that the findings in the IRP process are not legally enforceable, based on the responses provided to the IRP Staff Reports, the Commission believes that the utilities seriously consider the Commission staff's comments and most often implement the Commission staff's recommendations. In addition, the IRP regulation requires utilities to disclose planned resource acquisitions including those from energy efficiency resources and DSM programs. We believe that the Commission already has the requisite authority, and has exercised that authority, to make definitive findings on DSM programs. Although it is not specifically set forth in a statute or regulation, the Commission normally inquires about the use of DSM or other alternative energy resources as part of its CPCN review.



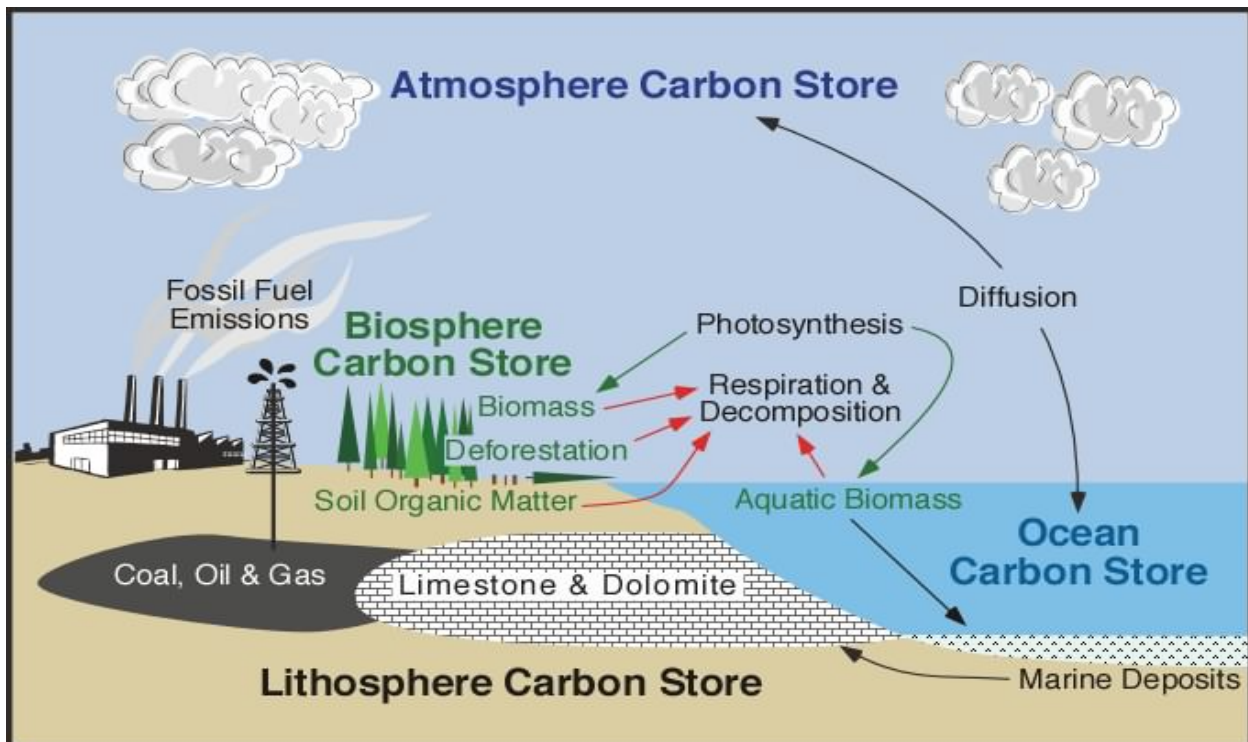
Recommendation No. 17

Until such time as anticipated federal legislation is formally enacted addressing carbon emission standards, utility IRP and CPCN filings should provide best available estimates of expected carbon impacts in justifying resource selections among portfolio options.

Overland noted that utilities in Kentucky have begun to assess the potential economic impact of carbon mitigation. While very preliminary in nature, several estimates have indicated a fifteen to twenty percent premium over non-carbon conventional coal dispatch costs. These estimates are in the process of more robust analysis, though significant uncertainty continues to exist. Overland notes that historically, avoided cost data has been filed with the Commission; however, there has been no specific requirement that avoided costs include capacity costs.

The Generating Utilities believe that they already address carbon impacts in their planning processes. LG&E and KU's 2008 IRP addresses the uncertainty associated with potential CO₂ regulations regarding supply-side planning. The impact on the need for new generating capacity will vary depending on the nature of the CO₂ regulations. The Companies are not explicitly incorporating the potential of CO₂ regulation into the demand-side planning process because there is no way to anticipate the precise form such legislation may ultimately take.

Duke Kentucky does consider projected costs for SO₂, NO_x, and mercury emission allowances as part of its planning process. In addition, Duke Kentucky's next IRP will be incorporating the potential for CO₂ regulation into its planning through the modeling of a CO₂ tax/emission allowance price. However, according to Duke Kentucky, it is difficult, if not impossible, to quantify the possible cost impacts of other legislation/regulation or other environmental issues when such legislation/regulation has not been enacted.



Moreover, it believes those factors are more appropriately considered on a national level, rather than on the individual utility planning perspective. Duke Kentucky asserts that as regulation of such factors arises, and the risks and obligations are more definitive, it would be possible to include such costs in planning estimates. Duke Kentucky is not far enough along in the process to be able to comment on the impacts on the timing of future new generation.

Big Rivers took into consideration SO₂, NO_x and CO₂ in its last IRP. Big Rivers states that it and its members lower emissions of SO₂, NO_x, and CO₂ through the various energy efficiency programs in the residential, commercial, and industrial load class of customers served by the members.

EKPC responded that it is performing some production cost modeling, and is using a carbon cap and trade concept for one or two of its modeling scenarios. EKPC stated that the value of the carbon allowance used for its modeling varies greatly. Numbers in the range of \$10 per ton to \$30 per ton have been used. According to EKPC, results have indicated a potential shift in preferred generation technology rather than a change in the timeline for future construction of new generation.

The Sierra Club states that although the Commission may not believe it can determine the precise dollar amount of health and environmental costs, some amount of these costs should be included rather than continuing to exclude them completely from IRP and new power plant permitting processes. Further, the use of the best estimate of these costs will be fairer and result in a more accurate economic determination of the cost of electricity than not to include any amount.

The Commission agrees that IRP and CPCN filings should provide best available estimates of expected carbon impacts in justifying resource selections among portfolio options. The Commission recognizes that such estimates will not be precise until actual legislation regulating carbon emissions is enacted. If such estimates are not included in initial filings, Commission practice is to request the information through data requests or other forms of discovery. The Commission also agrees with the Generating Utilities that it is too early for the utilities to try to correlate the specific impact of carbon legislation upon rates.

Recommendation No. 18

Utilities should be required to file avoided cost data (not less than annually), subject to the review and approval of the Commission. Consideration of energy efficiency and DSM programs, as well as renewables projects, should be measured against the appropriate avoided costs. Programs that reliably reduce peak load should be evaluated against the avoided cost of both demand and energy.

Avoided cost data has historically been filed with the Commission to establish rates applicable to cogeneration. There has been no specific requirement that avoided costs include capacity costs. Overland points out that recognition of externalities in the resource planning process is not generally required, however federal and state policies are providing incentives for growth of demand-side and renewable generation options.

In its testimony, Duke Kentucky questions the need for filing this information and the purpose for which it would be used. Duke Kentucky notes that in its report Overland states that all of the utilities consider avoided capacity costs in some manner as part of their respective DSM program analysis.

Utilities are currently required by regulation to file avoided cost information every two years. If not addressed in DSM filings, the Commission will request information relative to the consideration of avoided costs through data requests or other forms of discovery. The Commission does not necessarily oppose more frequent filing of avoided cost information, but notes that more frequent review would require additional Staff resources and may not be readily useful. The cogeneration regulation does not require capacity costs to be included in avoided cost calculations but does require an estimate of capacity costs at the completion of planned capacity additions and purchases.

Recommendation No. 19

The Commission should not require the recognition of environmental or public health externalities in the IRP or certificate processes, unless it finds it appropriate to specifically direct a utility (or utilities) to do so.

Because of the high probability of near-term legislation to constrain so-called greenhouse gases, Overland addressed the potential impacts of carbon constraints on generation costs more specifically. However, Overland omitted specific analysis of public health or other externalities since Overland agrees with the past assessment of the Commission that current statutes do not provide for consideration of such costs. Overland states that only KU and LG&E currently consider potential impacts of carbon taxes, or other carbon cost effects in determining avoided costs and that those utilities have done so in a very limited way.

The Generating Utilities state that they include the cost of all goods and services required to provide reliable service to their customers. These costs include, but are not limited to, compliance with all regulations and laws by both it and vendor suppliers. The Generating Utilities assert that to the extent certain laws and regulations are intended to “internalize” the cost of externalities; these costs are fully captured and reflected in the planning process. As indicated in their testimony, the Generating Utilities object to the use of full-cost accounting for a number of reasons. As asserted in their testimony, the concept of full-cost accounting includes the consideration of factors that by their very nature are intangible and incapable of objective calculation. In addition, many of these factors are more appropriate to be dealt with on a national policy level than on the state specific level. Moreover, the Generating Utilities claim traditional cost accounting presents a fair and understandable methodology to evaluate the true costs of resource planning that has already achieved wide spread industry acceptance.

LG&E and KU state in their brief that the companies already account for all the known and measurable costs, including those concerning environmental impacts, but only insofar as the costs of environmental and other impacts have been quantified. Otherwise, LG&E and KU assert, to add costs to consumers through full-cost accounting would result in arbitrary energy price increases.

KIUC believes that externalities such as environmental impacts are best addressed in the context of national policy. For planning purposes, KIUC believes the cost of compliance with various national environmental policy scenarios can be estimated and appropriately incorporated as an economic variable in the IRP process. KIUC believes that such an analysis of environmental contingencies is part of a prudent planning process and should not require enactment of additional statutes for this to occur.

The Sierra Club believes that the Commission should consider health care needs and early mortality caused and/or aggravated by pollutants from power plants in making decisions such as whether to issue CPCNs for new coal-fired generation. The Sierra Club submits that the Commission should set standard values for external costs to be included in electric utility IRP development, and to be used in CPCN proceedings. In its brief, the Sierra Club suggests that the Commission convene an administrative docket to hear and decide what externalities should be considered and what costs to assign to these externalities.

GOEP agrees that the Commission should not require the recognition of environmental or public health externalities in the IRP or CPCN processes. GOEP indicated that it is not aware of any state commission that requires recognition of externalities in resource planning processes. GOEP also points out that federal and state policymakers have typically chosen cap and trade mechanisms or best available control technology requirements to reduce pollutant emissions to levels considered necessary for public health or environmental protection rather than imposing costs for externalities. These approaches have proven to be very successful in driving development and deployment of emissions control technologies and in reducing emissions levels.

Regarding life-cycle and economic costs of various fuel strategies, GOEP has no objection to a utility's being required to estimate economic costs of technology for reducing carbon dioxide emissions or for capturing or sequestering carbon dioxide, if the Commission determines that doing so is within its jurisdiction. GOEP then cites its belief that there is a great difference between estimating the costs of carbon capture and sequestration and doing life-cycle cost analysis; therefore, GOEP joins other parties and recommends against requiring recognition of externalities.

The Commission does not support the recognition of externalities in the IRP or CPCN process. We are unaware of any state in which externalities are required to be recognized in resource planning. The Commission also believes, and has previously stated, that in light of the "known and measurable" standard for ratemaking, it lacks authority to require consideration of most externalities. Examining the Commission's authority regarding incorporating full-cost accounting that considers and requires comparison of life-cycle energy, economic, public health, and environmental costs of various strategies for meeting future energy demand is the third directive of Section 50. However, due to rapidly changing national policy and more general causal uncertainties, objective quantification of the recognition of environmental or public health externalities would be difficult or impossible at this time. Such premature efforts would invariably raise rates without guaranteeing a corresponding social benefit.

Recommendations Addressing Issue 4: Modifying rate structures and cost recovery to align financial interests

The Commission has determined that Recommendation No. 25, Recommendation No. 26 and Recommendation No. 28 should be given the highest priority of those recommendations developed to address Issue 4. These recommendations are discussed in more detail below. The first two relate to providing additional staff, funding and other resources as well as the explicit support of the General Assembly for Commission initiatives. The third recommendation is important because of the Commission's concern with the fairness and equity of rate caps as well as our concern for the impact of rate caps upon rates.

Recommendation No. 20

Assuming that the results of current pilot programs are positive, Time of Use (TOU) rates and Real Time Pricing (RTP) should be more broadly applied to industrial customers in the future.

Overland explained that TOU rates establish price differentials by seasonal or time-of-day increments. As a result on-peak and off-peak prices are generally set to approximate long-run marginal costs and typically reflect major price differentials for on-peak versus off-peak consumption. Overland believes that given the constraint that rates must be set to recover a defined revenue level, off-peak rates may encourage load shifting or a shift in consumption from higher cost on-peak hours to lower cost off-peak periods. In any case, Overland notes that the major benefit of TOU rates is the incentive for customers to reduce peak period demand and energy use.

Real Time Pricing (RTP) rates are a form of TOU pricing, where prices are set based on real-time market conditions. Overland explained that real-time prices will vary continuously as a function of actual generation dispatch costs. RTP rates will also typically allow for critical peak pricing (CPP) where high per unit rates are applied to critical peak periods for a limited number of days occurring during the year.

Overland argues that TOU and RTP rates are inextricably linked elements of policy and rate design. Among the Generating Utilities, LG&E is the only utility currently conducting pilot programs with on-peak/off-peak options for a limited number of customers with smaller loads, including residential customers. Overland believes that such programs will measure the ability to incent customers to reduce consumption and shift loads to off-peak periods. Overland also notes that in other jurisdictions, Duke Energy has developed a "Utility of the Future Initiative" that assumes deployment of smart meters for all utility customers. Based upon a reasonable scale of deployment, the estimated metering costs are in the range of \$260 to \$280 per customer. As a result of this initiative Duke Energy expects to experience demand reduction, including load control among other benefits such as reduced meter reading costs; improved customer communications; and improved service quality.

Overland also noted that pursuant to the Commission's directive in Administrative Case No. 2006-00045,¹¹ each of the jurisdictional electric utilities other than Duke Kentucky were required to and did file tariffs to implement voluntary real-time pricing (RTP) pilot programs for large commercial and industrial customers. Each of the programs is scheduled to run for three years at which time they will be evaluated for continued offering

In its brief, KIUC stated its support for the adoption of well-structured TOU rates. KIUC believes that customers are able to use pricing information they receive to alter patterns of energy usage, increasing efficiency and lowering the overall cost of energy to the system. While it recognizes that metering costs present a barrier to universal application of TOU rates, KIUC believes it would be beneficial if TOU rates were more widely available.

In its comments, GOEP cited the La Capra Report's recommendation that recommends that Kentucky consider various rate design changes that can contribute to energy efficiency. The changes identified by La Capra include **seasonal rates**, possibly increasing **block rates**, and time-of-use rates that better communicate marginal costs. La Capra believes that while this may not require large changes, this approach will introduce changes that may become even more important in the future.

Just as the Commission noted in Administrative Case No. 2006-00045, there should be broader use of voluntary TOU and RTP rates. As a result of its evaluation of the on-going pilots programs, the Commission will consider the success of the programs and the usefulness of forms of TOU and RTP, and determine if they should be continued, expanded or discontinued. In the meantime, the Commission will continue to encourage the Generating Utilities to give consideration to other forms of dynamic rates.



11 Administrative Case No. 2006-00045, Con Consideration of the Requirements of the Federal Energy Policy Act of 2005 Regarding Time-Based Metering, Demand Response, and Interconnection Service, Order dated December 21, 2006.

Recommendation No. 21

The current DSM Surcharge mechanism should be modified. Utility expenditures (capital, and operating costs related to the period of the program) should be capitalized, with amortization based on the estimated period of program benefits. Utilities should be allowed a minimum return of 100 bp higher than the most recent authorized rate of return in the utility's last rate proceedings. Utilities should be allowed to receive additional incentives based on the actual benefits achieved relative to appropriate targets from energy efficiency and DSM programs. Assuming that program targets are met, these incentives should provide a reasonable opportunity to earn a graduated return of up to 300 bp over the minimum premium, based on results.

Overland believes the DSM surcharge mechanism provides for cost recovery; it recognizes potential losses associated with declines in sales; and a provision is made for some contribution to earnings. However, Overland believes that, in its present form, this mechanism is not likely to induce utilities to fundamentally change their business model to consider investment in DSM equal to supply side resources. Overland also stated that if the DSM surcharge mechanism is modified as recommended, then the recovery of lost revenues needs to be re-evaluated to insure there is no duplication of earnings.

LG&E and KU support capitalizing non-expense cost components of energy efficiency programs with incentive equity returns being awarded for such capital investments. However, unlike Overland, they do not believe that the existing DSM statute needs to be amended in order for the Commission to approve these types of incentives. LG&E and KU also suggest that the Commission perform simplified annual rate reviews and allow utilities to capitalize the demand portion of purchased power costs.

Duke Kentucky supports changes but believes that even more should be done that recommended by Overland. Duke Kentucky does not believe that the changes proposed by Overland will encourage new behavior. Duke also advocates changes that would allow for utilities to be reimbursed for avoided costs of generation displaced by DSM and energy efficiency programs.

The AG does not agree with such a modification to the DSM Statute. The current method reflects a "pay-as-you-go" system with a true-up period utilizing review by the Commission of program performance and expenditures. The AG claims this review ensures that programs are cost effective, expenditures are reasonable and prudent, and that programs are meeting their performance targets. Based on the level and scope of DSM programs currently offered and proposed by the jurisdictional utilities, the AG asserts that it does not appear that any change in this method is necessary. Under the current method, utilities receive an incentive under the existing statute that is appropriate and which has encouraged DSM program development and implementation. According to the AG, there is no need to use additional premiums or incentives over and above the most recently authorized rate of return of a utility.

In its brief, Kentucky Power stated its opposition to the modification of the DSM surcharge mechanism and its opposition to re-evaluation of lost revenues. Kentucky Power believes that in order to encourage utilities to fully embrace DSM initiatives, they need to be indifferent to investing in supply side or demand side resources. A level playing field between supply and DSM programs is achieved through full cost recovery for DSM, including: 1) program costs, 2) net lost revenues, and 3) shared savings or an alternate form of a return on DSM investment similar to investment in new generation. It believes investment in DSM programs should be contemporaneously recovered. Kentucky's DSM cost recovery rules already provide for all three elements and surcharge recovery. Kentucky Power believes Kentucky's existing DSM rules provide a foundation for leveling the playing field. It also believes existing rules already grant the Commission the authority to capitalize expenditures, including deployment of smart meters, and provide for recovery through the DSM surcharge.

GOEP included this recommendation among those it suggested the Commission give priority, implying that GOEP supports the need for modification of the DSM Statute to allow for capitalization of expenses and increased returns.

The Commission sees no need to change the statute to allow for greater incentives. We believe that capitalization of certain expenditures and other increased incentives may be granted under the existing statute language. The Commission believes that the level of incentives should not be locked in, but should allow for flexibility based on the unique facts of a specific situation. Generally speaking, any policy for allowing incentive rates should be the result of a legislative initiative.

Recommendation No. 22

The DSM statute and advertising regulation should be modified to provide explicit authority for advertising costs associated with DSM and energy efficiency programs. The advertising regulation should be amended with regard to its definition of "promotional advertising" to eliminate potential conflicts with the promotion of energy efficient equipment; programmable thermostats; smart metering devices; etc.

The recovery of advertising cost associated with DSM and energy efficiency is not specifically addressed in the DSM statute, KRS 278.285. The regulation addressing recoverable advertising costs, 807 KAR 5:016, defines advertising of "the selection or installation of any appliance or equipment designed to use energy" as "promotional advertising." According to Overland, this definition of promotional advertising should be clarified because it directly discourages advertising relating to DSM programs offering more efficient equipment or appliances.

LG&E and KU do not believe any conflict exists between the DSM statute and the advertising regulation nor does the AG.

The Commission disagrees with Overland as to the existence of a conflict between the existing DSM statute and the Commission's regulation on rate recovery of advertising costs. If a utility seeks recovery of such costs through base rates rather than a DSM surcharge, the Commission believes it is the responsibility of the utility to identify and justify its expenditures on DSM advertising. If it does so, the Commission will likely approve the recovery of such costs. However, the Commission encourages the utilities to include such costs in their DSM applications to the best of their ability.

Recommendation No. 23

A new surcharge should be created to include and accelerate expenditures associated with efficiency improvements in utility generation facilities. The rate of return on Commission approved projects should be 50 bp higher than the most recent authorized return in the utility's rate proceedings.

Overland claims utility investments to improve the operating efficiency of existing generation facilities results in the production of fewer environmental wastes otherwise created by coal-fired facilities. Overland believes the Commission can help foster, and possibly accelerate these investments by providing policy support and financial incentives.

LG&E and KU support incentive returns on equity (ROE); however, capital projects may be difficult to justify based solely on the potential for efficiency improvements. In addition, improvements to efficiency may be offset as new regulations to reduce emissions can have a detrimental impact on generating efficiency. They also believe there is the potential that modifying generating facilities to improve efficiency may necessitate **New Source Review** (NSR) procedures, which would likely increase the total cost of the project.

Kentucky Power supports such a surcharge and proposes it be extended to also include transmission and distribution investments.

The AG disagrees with such a surcharge. Utilities already have incentives to increase efficiency levels in their generation facilities as part of the general rate-making process. If a company increases its operational efficiencies, it may experience returns in excess of its authorized rate of return and the incentive as proposed should not be necessary. Additionally, as the AG has argued in other matters, an explicit grant of statutory power would be necessary to implement the recommendation. The AG asserts that such statutory power is not currently within the purview of the Commission.

The Commission does not support a new surcharge or the awarding of a higher return, although both are within the scope of the Commission's current statutory authority. We do not believe that additional incentives are needed to encourage utilities to invest in cost-effective improvements. Utilities currently have incentives to implement cost-effective programs for which they are allowed to recover the costs and which enable them to sell increased output. To the extent that such improvements are not cost-effective, the Commission believes any financial incentives should be provided through grants, tax credits, low interest rate loans or some other similar method and should not be borne by ratepayers.

There is also the possibility that efficiency improvements could trigger NSR procedures, which would likely increase the cost of the efficiency project. Adopting such a surcharge or awarding a higher return could lead to utilities deciding to pursue efficiency programs, in order to receive a higher rate of return while the broader impact of the program could result in costs increasing and/or efficiency decreasing.

Recommendation No. 24

All regulated Kentucky utilities should be required to develop and offer a “Green Energy” optional tariff for their residential customers.

The Term “Green Energy” as used by Overland refers to energy produced from what is perceived to be environmentally friendly sources. What qualifies as green energy varies by jurisdiction, but is generally focused on renewables. In its report, Overland provides an overview of the existing voluntary Green Energy tariffs of Duke Kentucky, EKPC, LG&E and KU. Overland also points out that there is evidence that interest is growing in such tariffs and that an increasing number of Green Energy competitive suppliers have been successful in marketing these products and services. According to Overland, from the utilities’ perspective, if sufficient green energy sources are not available, the utility must either develop new ones or contract with third-party suppliers to secure required amounts.

LG&E and KU offer a Green Energy tariff. They state that their Green Energy program is a voluntary program available to all LG&E and KU customers who wish to make financial contributions toward the purchase of **Renewable Energy Certificates** (RECs) which support the operation and further development of renewable energy.

In its brief, Kentucky Power points out that subsequent to the Overland Report, it has sought Commission approval of its Green Pricing Option rider. Kentucky Power states that such efforts are likely to be enhanced by Overland’s proposal to compensate utility commitments to such investments by allowing a premium of up to 300 basis points over the latest authorized rate of return for the investments.

The Commission agrees with the idea that all jurisdictional utilities should offer a Green Energy tariff for residential customers, on a voluntary basis. At the time of the report, all of the Generating Utilities, except Kentucky Power, had some form of Green Energy offering. As Kentucky Power notes in its brief, it has submitted an application to implement a green energy tariff on April 23, 2008. That case is still undergoing Commission review.



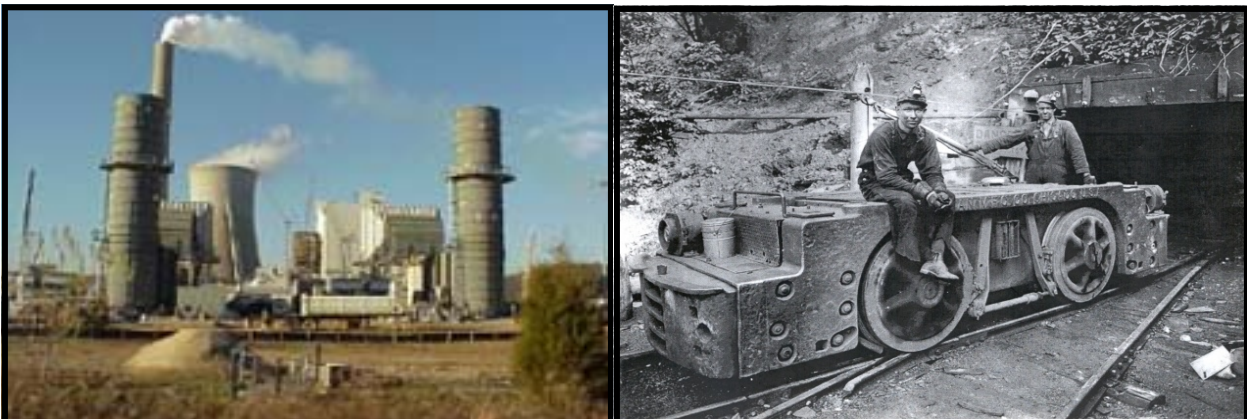
Recommendation No. 25

The Commission should provide for additional staffing, and relevant training, necessary to support increased activities associated with IRP, DSM, Environmental Surcharge, CPCN, and other filings. The Staff additions would also monitor federal and state energy legislation, industry research and programs, and Kentucky regulated utility parent-company activities. Staff resources may need to be further supplemented to support increasing requirements over time.

Overland found that the Commission Staff currently devoted approximately four to five full-time equivalents, plus supervisory personnel to processing IRP and DSM cases. The level of effort varies as a function of the number of filings or proceedings before it at any given time. Overland believes that the increased focus on energy efficiency programs by both utilities and policymakers, as well as on renewable and other resource options to meet growth or replace aging facilities, is almost certain to add pressure on existing Staff personnel resources.

GOEP included this as one of the six recommendations it recommended the Commission give priority. GOEP stated that the Commission should provide for additional staffing, and the relevant training, necessary to support increased activities associated with IRP, DSM, Environmental Surcharge, CPCN, and other filings. GOEP also believes the Staff additions should monitor federal and state energy legislation, industry research and programs, and the activities of the parent companies and affiliates of Kentucky's Generating Utilities. Furthermore, GOEP noted that Commission Staff resources may need to be further supplemented to support increasing requirements over time.

The Commission recognizes the concern cited by Overland and GOEP. The Commission's current challenges include dealing with lost institutional knowledge arising from a wave of anticipated retirements by staff with decades of experience in light of the so-called "retirement window", absorbing significant "pre-sweeps" of its assessment-driven budget appropriation, a loss of personnel positions and offering compensation that is competitive with private sector employers. Without relief, by early 2009 the Commission's workforce could be approximately half of what it was just a few years ago. Safety, reliability and rate scrutiny are all jeopardized by the Commission's current fiscal condition. The Commission encourages the General Assembly to favourably consider the recommendation of the Overland Consultants and GOEP so as to safeguard Kentucky's historic ranking as a state with low energy costs.



Recommendation No. 26

The General Assembly should consider explicit support of these Commission initiatives to further encourage the utility industry response, and to limit financial risks associated with these utility commitments.

According to Overland, the investor-owned utilities in Kentucky are in a reasonably positive financial position, as demonstrated by a recent S&P release ranking electric utilities in the United States. Overland noted that Duke Kentucky is in the top quartile, LG&E and KU are in the second quartile, and Kentucky Power is in the third quartile. Overland points out that the rating agency reports do, however, indicate concerns associated with potential adverse effects associated with major capital programs over the near term, and the potential for increased generation costs associated with possible federal legislation on carbon emissions.

Overland believes that with the expectation of pressures on the credit quality of the Kentucky investor-owned utilities, it is essential to maintain a positive environment for cost consideration and recognition of capital programs and environmental compliance. Furthermore, Overland states that the implementation of recommendations to expand energy efficiency programs and to consider generation resource diversification must also be made in a manner that does not degrade the financial condition of Kentucky regulated utilities.

Therefore, Overland explains that recommendations contained in this report that provide incentive returns for utilities that invest in DSM, renewables, and environmental facilities, do so for two primary reasons. First, Overland believes that incremental returns and the sharing of program benefits are essential to focus utilities' strategic and financial planning on programs for which there are inherent disincentives. Secondly, these returns and incentives are also proposed in recognition of increased operating and financial risks that these investment alternatives pose in contrast to traditional supply-side resources. Finally, Overland believes that from a policy perspective, it is in utility customers' interest to maintain, if not improve, the credit position of Kentucky jurisdictional utilities because the cost of maintaining bond and corporate ratings is always lower than rebuilding the financial position of a utility after a credit downgrade.

The AG maintains that only certain initiatives recommended by Overland should be supported. With regard to this specific recommendation, the AG believes that Overland has failed to consider the potential financial consequences to the ratepayers.

Though the recommendation is somewhat awkwardly stated, the Commission generally supports the intent of this recommendation. The Commission has the authority to offer incentive returns for proposed energy efficiency, DSM and renewables projects. We do, however, believe that the General Assembly should explicitly affirm its support for this existing authority if it is a public policy which the General Assembly is committed to pursuing. With reference to other initiatives that do not require legislation, we believe that since the General Assembly directed the Commission to undertake review of the four Section 50 issues, it should support the Commission as it moves forward to address or implement those initiatives the Commission has deemed appropriate. In further support of its position, the Commission notes that by pursuing the review of the Section 50 issues in an administrative proceeding, the report of expert consultants, as well as the comments of most direct stakeholders opinions were solicited and carefully considered by the Commission before reaching its decisions.

Recommendation No. 27

In support of the development of Section 50 objectives, the General Assembly may wish to work with utilities in developing securitization bond funding in support of qualifying conservation investments and environmental mandates, including advanced-coal technologies. Access to capital at a reduced cost will help bring these programs to fruition on a more economic basis, and will result in lower energy rates.

Overland believes that investments in certain programs such as implementation of smart meters as infrastructure for all customers, incremental costs for construction of an **Integrated Gasification-Combined Cycle (IGCC)** facility, or programs to provide funding for customer investment in energy efficient appliances, weatherization, etc. may require substantial capital to which all utilities may not have ready access. Therefore, according to Overland, access to capital at a reduced cost may help bring these types of programs to fruition on a more economic basis, and will result in lower energy rates. In further support of securitization, Overland notes that in other jurisdictions during the period of electric industry restructuring, the legislatures enacted programs that provided funding or funding guarantees that substantially reduced the cost of capital for utilities and their customers.



LG&E and KU testified that they believed securitization would require statutory authority but do not see a need for such authority at this time. In their briefs, the Companies reiterated their position that specific legislation would be needed to authorize securitized bonds. However, they additionally argued that such funding would not align utilities' financial interests with the goal of implementing cost-effective DSM and energy efficiency projects because utilities would not be permitted to earn a return on the invest-

ment. It is likely that securitized bond funding would not be cost-advantageous to customers in most cases. Finally, the companies argued that arranging securitized bond funding is quite expensive and requires a significant capital investment to justify its cost. They believe that traditional utility financing would be more cost-effective for most DSM projects and would provide the utilities the financial incentive to pursue such projects.

The Commission is neutral regarding the securitization of DSM, energy efficiency or energy diversification programs. We believe that securitization could advance research or investment in the items noted; however, we agree with LG&E and KU that securitization may not be the least cost alternative. If securitization were cost-effective, the utilities' inability to earn a full return on their investment may still discourage their participation.

Recommendation No. 28

Any potential customer increase in rates due to programs effective on or after January 1, 2009, which are recoverable by operation of the proposed surcharges contained in this report, should be considered in light of other cost increases in base rates, FAC, or other charges. If the Commission finds it appropriate to do so, it may impose a rate cap on these costs for a particular period or periods. Approved costs, if any, that exceed the rate cap, should be deferred for future recovery, including appropriate carrying costs.

Overland believes that the implementation of programs, policies and procedures contained in this report may cause an increase in charges over current customer rates. They believe that it is important to provide protection to customers that rates will not rise precipitously due to the adoption of proposed recommendations. Overland explains that certain of its recommendations contain mechanisms to capitalize, or otherwise defer costs associated with various programs addressed so that on a net present value or levelized cost basis, these programs may in fact be equal to or less than a conventional supply resource alternative. While Overland believes that utilities must be assured reasonable opportunity for recovery of costs associated with these programs, as well as appropriate incentives to pursue them, similarly customers should be shielded from unanticipated increases in rates as these initiatives are implemented.

LG&E and KU initially testified that they generally disfavor rate caps, which create generational inequities for customers and can impair utilities' ability to obtain low-cost financing in capital markets. They believe the net effect of these impacts likely would be to raise unnecessarily the cost of service for future customers by increasing revenue requirements while financially weakening the impacted utilities, potentially limiting their ability to undertake needed or desirable cost-effective projects without increasing their cost of debt.

Kentucky Power testified that these sorts of programs should be evaluated and paid for based on their own merits. It is Kentucky Power's position that worthwhile programs should be implemented and the utility allowed to recover its costs and lost revenues, if applicable, contemporaneously with their occurrence, particularly with DSM or any other programs that are required to be cost-effective.

In his comments, the AG agreed with the implementation of a true rate cap; however, his office would not support the deferral of any uncollected, approved costs (including carrying costs) to a later time.

The Commission does not believe that it is appropriate to impose rate caps for the programs that are the subject of this review. The Commission has authorized and even required deferral of certain costs where there is an ongoing or future benefit in accordance with the traditional matching principle. At some point, the costs of the programs would have to be recovered. If current recovery is not allowed, where appropriate, then additional costs may result by the deferral. The Commission also notes that inappropriate deferral may also result in future customers paying for property or savings used or enjoyed by current customers. Finally, the Commission is concerned that, as LG&E and KU argue in their brief, utilities would likely challenge rate caps and certain deferrals as an unconstitutional taking without compensation of the utility's property. In states that have restructured their electric markets, rate caps have invariably resulted in volatile pricing and dramatic rate increases.

Other Recommendations Proposed by the Parties

Recommendation No. 29

Reduce regulatory lag by making initial review of Commission decisions occur at the Kentucky Court of Appeals instead of at the circuit court level.

In its initial testimony in response to Issue No. 1 regarding the elimination of impediments to the adoption of cost-effective DSM, Duke Kentucky stated that it believes that all stakeholders would benefit from a restructuring of the appellate process, to eliminate review at the circuit court level so that cases could go straight to the Court of Appeals. Duke Kentucky argues that this restructuring would save significant time and expense. It also argues that this would provide for greater regulatory certainty by lessening the possibility for conflicting decisions at the lower court level.

The Commission does not support the recommendation to revise the statutory process for judicial review by designating the Kentucky Court of Appeals, rather than the Franklin Circuit Court, as the forum for the first level of review. While the possibility exists that conflicting decisions may be issued by the circuit court, that possibility is just as real at the Court of Appeals.

Recommendation No. 30

Strengthen building codes and efficiency standards.

GOEP cited the recommendations from the La Capra Report as germane to the Section 50 Analysis. La Capra recommends that Kentucky should effectively utilize building codes and efficiency standards for new electric equipment, when cost justified, which may require enforcement of such codes and standards.

The Commission generally supports the recommendation on building codes and energy efficiency standards. The Commission, however, has no jurisdiction over this area of regulation. We do want to point out that improving energy efficiency among state-owned facilities was addressed as part of House Bill 2, as enacted in the 2008 Regular Session. Additional input from other agencies and stakeholders with direct authority over these types of issues should be solicited.

Recommendation No. 31

Modify existing rate design policies and principles.

La Capra also recommends that Kentucky consider various rate design changes that can contribute to energy efficiency. These include seasonal rates, possibly increasing block rates, and time-of-use rates that better communicate marginal costs. While this may not require large changes, this approach will introduce changes that may become even more important in the future.

The Commission supports La Capra's recommendation relating to rate design and the use of dynamic rates. This is essentially the same as Overland's Recommendation No. 20 discussed above which the Commission also supports.

Recommendation No. 32

Reconsidering the approach of industrial customers to DSM.

La Capra states that utility DSM programs may be missing a potential for a large amount of energy efficiency that could result from industrial programs and that programs appear not to have been developed for this class. The ability of industrial customers to avoid paying for any DSM by stating that they have instituted energy efficiency seems to be the reason that programs have not been developed for this class. Given the legislative provision regarding industrial customers' ability to opt out of DSM programs, La Capra recommends that the Commission adopt a procedure to review whether alternative measures are "cost-effective" on the same basis that is used to judge utility DSM programs.

The Commission is generally supportive of this recommendation. As discussed in regard to Recommendation No. 5, the Commission plans to promulgate a regulation to clarify the definition of "energy intensive processes" for industrial customers.

Recommendation No. 33

Adopt rate decoupling.

La Capra recommends that decoupling should be adopted only after full consideration of all of the impacts of decoupling and if it is determined that the benefits outweigh the costs. The report states that this analysis should include an investigation of how much incremental impact decoupling will have on utilities' DSM programs, and in particular whether existing ratemaking methodology, including a lost revenues component to DSM and possibly a modified incentive to utilities, can achieve the same result. La Capra recommends the Commission should also include consideration of how decoupling will impact utilities, ratepayers, and regulators.

The Commission agrees with La Capra that decoupling should be adopted only if it is determined that the benefits outweigh the costs. It is far from certain that this is the case at this point and decoupling should not be adopted in the immediate future.

Recommendation No. 34

Additional study should be undertaken as to what incentives for efficiency programs are necessary.

La Capra recommends that Kentucky should investigate what level of incentives and possible penalties will be effective in encouraging implementation of cost-effective DSM programs. Incentives for efficiency programs may be necessary, but they should be related to utility performance rather than simply the amount spent. Incentives that reward utilities for spending more encourage utilities to spend more, but unless there is very thorough oversight, the larger spending may not achieve the full energy efficiency potential of the state.

The Commission is neutral regarding the recommendation that Kentucky investigate what level of incentives or penalties will be effective to encourage implementation of cost-effective DSM programs. As discussed above, we support Overland's Recommendation No. 4 which, if implemented, would authorize the Commission to act on its own initiative to direct utilities to implement DSM programs.

Recommendation No. 35

Utilities should be given firm direction in IRP, DSM and Environmental proceedings.

La Capra recommends that the Commission should provide firm direction to the utilities in IRP, DSM and Environmental Compliance proceedings, utilizing the same information that is or will be used in CPCNs. La Capra also recommends that the Commission should review and make enforceable findings regarding the IRPs and DSM programs. Without this oversight and direction, supply planning and energy efficiency programs are less likely to achieve the Commission's major overriding goals.

The Commission does not believe it is practical or advisable to provide firm direction to utilities in IRP cases as La Capra suggests. The Commission already provides firm direction in DSM, Environmental Surcharge and CPCN cases as suggested by La Capra.

Recommendation No. 36

Kentucky should adopt the “Save-A-Watt” program developed by Duke Energy.

The Alliance to Save Energy, the American Council for an Energy-Efficient Economy, and the Energy Future Coalition (collectively the “Energy Efficiency Partners” or “Partners”) submitted a letter supporting Duke Kentucky’s “Save A Watt” program. The letter cites the first four elements of an agreement between the Energy Efficiency Partners and Duke Kentucky. The Energy Efficiency Partners state that they encourage the Commission to determine an appropriate level of compensation for Duke Kentucky but take no position on Duke Kentucky’s avoided cost calculation. Finally, the Energy Efficiency Partners state that Duke Kentucky has agreed to continue to explore with state regulators approaches that eliminate the link between the utility’s financial health and its customers’ electricity consumption and, therefore, the Partners state their support for decoupling electricity sales from utility profits.

As an initial matter, we note that this program has been submitted for approval in North Carolina and Indiana, but not Kentucky. It may well become a case which the Commission must one day adjudicate. The Energy Efficiency Partners’ letter was placed in this case because of the close relation of the subject of the letter to the issues being considered in this proceeding. As noted above, the Partners state their general support of specific Duke Energy DSM and energy efficiency initiatives submitted for consideration in other jurisdictions. The Commission has shown its willingness to consider cost-effective DSM and energy efficiency as evidenced by the Commission’s approval of a number of such programs in various Orders issued over the past fifteen years. While the Commission has noted its broad support for such initiatives, it must give weight to each request as filed. Duke Kentucky has not submitted the “Save A Watt” program for consideration in Kentucky but it has implemented many DSM programs that are part of the “Save A Watt” group. The Commission will send a copy of its report to the Energy Efficiency Partners and thank them for their concern and comments.

Recommendation No. 37

Provide for aggregate purchasing and expand transportation service for natural gas.

In its initial testimony in response to Issue No. 1 regarding the elimination of impediments to the adoption of cost-effective DSM, Stand recommends that the tariffs of Kentucky's major natural gas utilities be modified to allow Kentucky's smaller commercial and industrial companies, including schools systems and government facilities the choice to purchase their natural gas supplies through an open, competitive market. Stand believes that such changes would better align the financial interests of the utility with the goals of achieving energy efficiency and lower costs to all classes of Kentucky ratepayers.

Stand's argument is based on its belief that the current transportation tariffs of Kentucky's larger jurisdictional natural gas utilities are too restrictive. The Commission reviewed the benefit of choice for residential and small volume customers as part of Administrative Case No. 367, finding that the extent of customer benefit was not clear. In addition, unbundling legislation introduced during the 1998 General Session of the Kentucky General Assembly failed to be reported out of committee. Since the Commission's initial findings in that proceeding, there have been no formal complaints regarding this specific issue nor has this specific issue been directly addressed by any intervenor in any general rate case. The Commission also believes that this issue is outside of the subject of this current proceeding and so notified Stand in its Order of April 18, 2008. Legislation was introduced in the 2008 Regular Session to accomplish what Stand has proposed, but it failed to pass either chamber of the General Assembly.

Recommendation No. 38

Offer a discount rate, tied to current per kilowatt rates, for households that are at or below 200 percent of the federal poverty guidelines.

CAK recommends two safeguards for low income customers. The first item is a "hold harmless" provision for low income and working poor families. CAK believes that as Kentucky increases the use of renewable energy sources it should at the same time protect its most vulnerable citizens from price increases that could significantly increase the risk of disconnection for those households.

The Commission concurs with CAK's concern about low income customers. However, we have a broader concern regarding the impact of increasing costs on all Kentucky's electric consumers. Further review and analysis will be required to determine the financial impact of this recommendation before it can be supported or implemented.

Recommendation No. 39

Expand energy conservation programs that piggyback the federal weatherization program.

According to CAK, its second recommendation will help reduce Kentucky's carbon footprint and help make utility bills more affordable for low income households.

The Commission generally supports the idea of providing additional funds for weatherization, if it is cost-effective. CAK has not provided any economic or financial analysis of the cost or impact on other customers of implementing its safeguards. The Commission believes that further review and analysis will be required to determine the financial impact of this recommendation. In addition, this recommendation may likely require some legislative action.

GLOSSARY OF TERMS

Affiliate: An entity which is directly or indirectly owned, operated, or controlled by another entity.

Association of Community Ministry: a Kentucky non-profit corporation with a membership of 15 independent community ministries providing services to the Louisville Metro area.

Attorney General (AG): elected Kentucky government official who heads an agency charged with protecting consumers' rights. The AG typically participates as an intervenor in Commission cases acting on behalf of consumers.

Avoided costs: Incremental cost to an electric utility of electric energy or capacity or both, if not for the qualifying facility, the utility would generate itself or purchase from another source.

Base load: The minimum amount of electric power delivered or required over a given period of time at a steady rate.

Base load capacity: The generating equipment normally operated to serve loads on an around-the-clock basis.

Base load plant: A plant, usually housing high-efficiency steam-electric units, which is normally operated to take all or part of the minimum load of a system, and which consequently produces electricity at an essentially constant rate and runs continuously. These units are operated to maximize system mechanical and thermal efficiency and minimize system operating costs.

Basis points: a measure of return on investment in which one point equates to one hundredth of a percent, such that 25 basis points represents 0.25 percent, or 200 basis points represents 2.0 percent.

Big Rivers Electric Corporation: a generation and transmission electric cooperative which is owned by and serves 3 distribution cooperatives in western Kentucky. The 3 cooperatives supply power to over 110,000 customers in 22 counties.

Biofuels: Liquid fuels and blending components produced from biomass (plant) feedstocks, used primarily for transportation.

Biomass: Organic non-fossil material of biological origin constituting a renewable energy source.

California tests: net present value impact tests developed by the California Utilities Commission to evaluate DSM programs. The four tests are the ratepayer impact test, participant test, total resource cost test, and utility, or program administrator, test.

Capacity charge: An element in a two-part pricing method used in electric transactions (energy charge is the other element). The capacity charge, sometimes called *Demand Charge*, is assessed on the amount of capacity being purchased.

Carbon dioxide (CO₂): A colorless, odorless, non-poisonous gas that is a normal part of Earth's atmosphere. Carbon dioxide is a product of fossil-fuel combustion as well as other processes. It is considered a greenhouse gas as it traps heat (infrared energy) radiated by the Earth into the atmosphere and thereby contributes to the potential for global warming. The global warming potential (GWP) of other greenhouse gases is measured in relation to that of carbon dioxide, which by international scientific convention is assigned a value of one (1).

Carbon sequestration: The fixation of atmospheric carbon dioxide in a carbon sink through biological or physical processes.

Certificate of Public Convenience and Necessity (CPCN): authorization sought from the Commission under KRS 278.020 to construct an electric generating facility or electric transmission line, or to transfer control of a utility to another person or entity.

Climate Change: a generic phrase usually related to global warming and/or the factors blamed for causing global warming. It is also used to refer to changes in climate that are characterized as being caused by global warming.

Coal gasification: The process of converting coal into gas. The basic process involves crushing coal to a powder, which is then heated in the presence of steam and oxygen to produce a gas. The gas is then refined to reduce sulfur and other impurities. The gas can be used as a fuel or processed further and concentrated into chemical or liquid fuel.

Cogeneration: The production of electrical energy and another form of useful energy (such as heat or steam) through the sequential use of energy.

Collaborative/advisory group: a group of customers (stakeholders) who assist the utility develop, evaluate, and monitor its DSM programs. Collaboratives typically vote on programs, issues, etc. while an advisory group advises the utility on such matters.

Community Action Council for Lexington-Fayette, Bourbon, Harrison and Nicholas Counties, Inc.: a non-profit community action agency providing energy assistance services to low-income residents served by Kentucky Utilities Company.

Community Action Kentucky (formerly KACA): a non-profit corporation representing Kentucky's 23 Community Action agencies. It operates the Low Income Home Energy Assistance Program statewide, serving 150,000 low-income customers.

Cumberland Chapter of the Sierra Club: the Kentucky chapter of the Sierra Club, the nation's oldest and largest grassroots environmental organization, with chapters in all 50 states. The Kentucky chapter has approximately 5,000 members.

Demand-side management (DSM): any conservation, load management, or other utility activity intended to influence the level or pattern of customer usage or demand, including home energy assistance programs.

Demand-side management costs: The costs incurred by the utility to achieve the capacity and energy savings from the Demand-Side Management Program. Costs incurred by customers or third parties are to be excluded. The costs are to be reported in thousands of dollars (nominal) in the year in which they are incurred, regardless of when the savings occur. The utility costs are all the annual expenses (labor, administrative, equipment, incentives, marketing, monitoring and evaluation, and other incurred by the utility for operation of the DSM Program), regardless of whether the costs are expensed or capitalized. Lump sum capital costs (typically accrued over several years prior to start up) are not to be reported. Program costs associated with strategic load growth activities are also to be excluded.

Distributed generation: an electric generation source physically positioned close to the load that it serves. General, but non-exclusive, characteristics of such generation include: an operating strategy that supports the served load; and interconnection to a distribution or sub-transmission system (138 kV or less). Such generators typically utilize reciprocal engines, microturbines, combustion gas turbines, fuel cells, or other renewable technologies.

Distribution system: The portion of the transmission and facilities of an electric system that is dedicated to delivering electric energy to an end-user.

DOE: United States Department of Energy.

Duke Energy Kentucky, Inc.: a wholly-owned subsidiary of Duke Energy Ohio, Inc., which provides service to 133,000 electric customers and 94,000 natural gas customers in 7 northern Kentucky counties.

East Kentucky Power Cooperative, Inc.: a generation and transmission electric cooperative owned by and serving 16 distribution cooperatives in central and eastern Kentucky. The 16 cooperatives supply power to 500,000 customers in 89 counties.

Energy efficiency, Electricity: Refers to programs that are aimed at reducing the energy used by specific end-use devices and systems, typically without affecting the services provided. These programs reduce overall electricity consumption (reported in megawatthours), often without explicit consideration for the timing of program-induced savings. Such savings are generally achieved by substituting technologically more advanced equipment to produce the same level of end-use services (e.g. lighting, heating, motor drive) with less electricity. Examples include high-efficiency appliances, efficient lighting programs, high-efficiency heating, ventilating and air conditioning (HVAC) systems or control modifications, efficient building design, advanced electric motor drives, and heat recovery systems.

Energy Star: U.S. DOE program which designates appliances, equipment, homes, buildings, etc. as meeting "Energy Star" standards based on efficiency criteria.

Environmental Surcharge: Kentucky rate mechanism under which electric utilities may seek rate recovery of environmental costs related to coal combustion without being required to file for a general increase in rates.

Externalities: Benefits or costs, generated as a byproduct of an economic activity, that do not accrue to the parties involved in the activity. Environmental externalities are benefits or costs that manifest themselves through changes in the physical or biological environment.

Firm power: Power or power-producing capacity, intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

Full-cost accounting: systematically accounting for all costs associated with an economic activity, including not only the direct, or private, costs reflected in business accounting systems, but also indirect, or social, costs and benefits embodied with the structure of externalities identified with the activity.

G & T cooperatives: cooperative organizations which are engaged in generating (G) electricity and transmitting (T) electricity to other electric systems, which are engaged in the distribution of electricity to the retail end-use customer.

Gas transportation service: service under which a gas distribution utility transports, or delivers, natural gas to an end-use retail customer who purchased the gas from a third-party supplier rather than from the gas distribution utility.

General rate tracker approval authority: legislative authorization for the Commission to review and approve alternative modes of regulatory ratemaking and cost recovery for utilities outside of a general rate case.

Increasing block rates: rate structures under which the block rate-per-unit increases as a customer's consumption increases. Such rates are intended to induce customers to reduce consumption.

IGCC (Integrated-Gasification Combined Cycle): generation technology in which coal is gasified then combusted in one of more gas turbines, which exhaust to heat recovery steam generators that produce steam for operating a conventional steam turbine.

Integrated Resource Plan (IRP): a process whereby utilities evaluate supply and demand options for meeting future customer demand. This includes determining the mix of options that best meets demand in a reliable and cost-efficient manner.

Interconnection: the connection of a customer-generator to a utility distribution system in order that the customer-generator may provide electric energy to the utility via the utility's net metering service.

IPP (Independent Power Producer): an electric generating entity that constructs its facilities for the purpose of selling its product into the wholesale market. Typically an entrepreneurial enterprise, subject to regulation only for siting purposes.

Kentucky Industrial Utility Customers, Inc. (KIUC): a non-profit corporation comprised of large industrial customers of electric and natural gas utilities in Kentucky. Its members include metals, chemicals, automotive, paper, and petroleum industries.

Kentucky Oil & Gas Association: a non-profit corporation which disseminates information on Kentucky oil and gas issues to its members and takes steps in regard to legislation to protect and advance the interests of its members.

Kentucky Power Company: a wholly-owned subsidiary of American Electric Power Company which serves approximately 175,000 electric customers in 20 counties in eastern Kentucky.

Kentucky Pollution Prevention Center: a research body that operates within the University of Louisville addressing issues related to pollution and pollution prevention.

Kentucky Utilities Company: a wholly-owned subsidiary of E.ON, the world's largest investor-owned utility, headquartered in Dusseldorf, Germany. It serves 485,000 electric customers in 77 Kentucky counties and 30,000 customers in 5 Virginia counties.

Life-cycle energy costs: costs of generating electricity projected over the expected life of a proposed generation facility, rather than a pre-selected planning horizon.

Load control program: A program in which the utility company offers a lower rate in return for having permission to turn off the air conditioner or water heater for short periods of time by remote control. This control allows the utility to reduce peak demand.

Lost sales revenues: the reduction, or loss, of revenues that utilities may realize as a result of reduced energy sales that may occur due to their customers' participation in DSM programs.

Louisville Gas and Electric Company: a wholly-owned subsidiary of E.ON (see above). It serves 384,000 electric customers and 312,000 natural gas customers in Jefferson County and 16 surrounding counties.

Low Income Home Energy Assistance Program (LIHEAP): LIHEAP's purpose is to assist eligible households to meet the cost of heating or cooling in residential dwellings. The Federal government provides funds to the States to administer the program.

Mcf: one thousand cubic feet.

Megawatthour (MWh): One thousand kilowatt-hours or 1 million watt-hours.

Merchant power: power generated by non-regulated entities, typically referred to an Independent Power Producers (IPP), for sale into wholesale power markets.

Net metering: a service available to consumers deploying distributed generation for their own use, under which excess consumer-generated electricity that is delivered to the utility is credited to the consumer's electric bill during the applicable billing period.

New Source Review: federal requirements to implement best available technology for new electric generation facilities or, in some instances, existing facilities when they are upgraded or receive life-extension equipment retrofits.

Off peak: Period of relatively low system demand. These periods often occur in daily, weekly, and seasonal patterns; these off-peak periods differ for each individual electric utility.

On peak: Periods of relatively high system demand. These periods often occur in daily, weekly, and seasonal patterns; these on-peak periods differ for each individual electric utility.

People Organized and Working for Energy Reform (POWER): unincorporated non-profit organization working to preserve utility services for low-income households in the area served by Louisville Gas and Electric Company.

Photovoltaic and solar thermal energy (as used at electric utilities): Energy radiated by the sun as electromagnetic waves (electromagnetic radiation) that is converted at electric utilities into electricity by means of solar (photovoltaic) cells or concentrating (focusing) collectors.

Photovoltaic cell (PVC): An electronic device consisting of layers of semiconductor materials fabricated to form a junction (adjacent layers of materials with different electronic characteristics) and electrical contacts and being capable of converting incident light directly into electricity (direct current).

Public benefits fund: a funding mechanism with a revenue stream collected through a surcharge on retail electric bills, which is used to support energy efficiency, renewable energy, energy research and development and low-income energy assistance projects.

Rate decoupling: term applied to various forms of alternative ratemaking under which the basic connection between sales volumes and revenues is broken in order to remove utilities' incentive to maintain or increase sales volumes in order to maintain profits.

Real time pricing: term typically applied to dynamic pricing programs where prices are set based on real-time market conditions. Such prices vary continuously as a function of actual generation dispatch costs.

Rebate program: A utility company-sponsored conservation program whereby the utility company returns a portion of the purchase price cost when a more energy-efficient refrigerator, water heater, air conditioner, or other appliance is purchased.

Renewable Energy Certificate (RECs): also known as green tags. They represent environmental attributes of power produced from renewable sources and are sold separate from the electric commodity. Customers can buy RECs whether or not they have access to green power through the local utility or competitive electricity marketer.

Renewable portfolio standard (RPS): mandatory requirements to provide a specific percentage of electricity from renewable resources; often, these are state-level requirements applicable to some or all of the utilities operating in that state.

Renewable energy resources: Energy resources that are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Renewable energy resources include: biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action.

Request for Proposal (RFP): a document issued by a utility when it wishes to evaluate prospects for contracting with a third-party to develop a project, construct a facility or operate a facility as an alternative to the utility performing these tasks.

Revenue requirement: The total revenue that the utility is authorized an opportunity to recover, which includes operating expenses and a reasonable return on rate base.

Seasonal rates: Different seasons of the year are structured into an electric rate schedule whereby an electric utility provides service to consumers at different rates. The electric rate schedule usually takes into account demand based on weather and other factors.

Securitization: A proposal for issuing bonds that would be used to buy down existing power contracts or other obligations. The bonds would be repaid by designating a portion of future customer bill payments. Customer bills would be lowered, since the cost of bond payments would be less than the power contract costs that would be avoided.

Smart metering: generic term applied to metering equipment that provides two-way communication between the utility and the consumer.

Solar energy: The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity.

Stand Energy Group: a privately held Kentucky corporation engaged in marketing and selling natural gas to customers in numerous states, including Kentucky.

Standard offer contract: a standing offer to enter into a contractual agreement under the terms and conditions contained within the offer.

System benefits charge: the term usually used for the surcharge applied to retail electricity bills for the purpose of funding a Public Benefits Fund.

Tariff: A published volume of rate schedules and general terms and conditions under which a product or service will be supplied.

Time-of-use pricing: An electric rate feature under which the price per kilowatthour depends on the time of use.

Time-of-use rate: The rate charged by an electric utility for service to various classes of customers. The rate reflects the different costs of providing the service at different times of use.

Utility energy portfolio: a menu of supply and demand resources, which a utility may utilize to meet its system load. Portfolio analysis is used to develop such a menu with consideration given to matters such as reliability, cost, risk, and environmental impacts.

Weatherization program: generic term for programs, usually targeted to low-income utility customers, which provide caulking, duct sealing, water heater wraps, insulation, and other features designed to make a dwelling more air-tight and energy efficient.

Wholesale power market: The purchase and sale of electricity from generators to resellers (who sell to retail customers), along with the ancillary services needed to maintain reliability and power quality at the transmission level.

Wind energy: Kinetic energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators.