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KEEA is a statewide network of 65 organizations and energy service providers focused on assisting individuals and businesses reduce their energy usage and bills. KEEA knows that the deepest and most persistent energy savings results from comprehensive improvements to homes and businesses using energy audits provided by certified building analysts.

KEEA is submitting comments on M-2008-2069887 which is the staff document released on November 26, 2008 for comment regarding energy efficiency and conservation (EE&C) as required under Act 129 of 2008 at Sections 2806.1(a)(1). We will also be available at the December 10, 2008 Working Group meeting to elaborate on the comments we are submitting today.

Thank you for the opportunity.

Sincerely,

**Liz Robinson**  
 On behalf of:

**Keystone Energy Efficiency Alliance**

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**Responses from the Keystone Energy Efficiency Alliance  
To the**

**Additional Questions Related to the Commission's  
Energy Efficiency and Conservation Program at Docket No. M-2008-2069887**

**1. Efficiency targets/Goals:**

- a) Should the Commission use the average usage during the 100 highest peak hours during the entire reference year, or the average usage during the 100 highest summer peak hours when calculating the peak demand reduction targets for each EDC?

The Commission should use the highest annual system peak hours. The intent of Act 129 is to reduce system peak demand, that is the PJM system for most of the state and MISO for a section of Western PA. PJM's peak is a summer peak, but it is possible that one or more of those highest 100 hours could occur in the winter. By reducing the system peak demand, Pennsylvania utilities will significantly reduce upward pressure on prices for the entire year.

- b) Does Act 129 require reductions down to a fixed level, or require a fixed amount of decrease? How should this be calculated? Should the consumption reduction requirements contained in Section 2806.1(c) be treated the same as the demand reduction requirements contained in Section 2806.1(d)?

While the members of the Keystone Energy Efficiency Alliance (KEEA) are not in agreement on this question, we do agree that the Commission must be consistent.

One very important consideration, and on balance a reason to prefer the Savings approach, is the impact of external forces on energy consumption. The current recession, with rising unemployment, plant closures, reduced consumer spending etc. is bound to have a dampening effect on energy use. In fact, a recent article in the Wall Street Journal finds an unprecedented national trend among electric utilities in which average sales are declining. While all the causes are not yet known, forces beyond the current recession may be at work. A growing awareness among the American people of climate change and the importance of energy conservation is suspected to be a contributing factor although certainly the biggest factor is the economy itself. These economic and social trends are huge forces that will be very difficult for evaluators to disaggregate from the specific program impacts of Pennsylvania utilities. If the recession continues into 2010 and beyond, or if the conservation ethic takes hold among Americans, it may be very difficult to determine whether the reductions in electricity consumption are due to utility programs, or these external forces.

On the other hand, the reduction approach has the potential to yield greater savings, as Roger Clark has postulated in his Enbanc testimony and written comments of November 3, 2008.

## 2. Program Design:

- a) Statewide vs. EDC specific: Should the Commission encourage, by policy, a statewide approach to some programs that are likely to be effective across Pennsylvania? For example, should rebate programs be harmonized across the state? Should specific programs, such as Energy Audits, PJM load reduction programs, Home Performance With Energy Star, and Energy Star Homes be consistently available in all EDC service territories? If so, what programs should the EDCs implement consistently across the state?

The Commission should definitely encourage statewide approaches for both energy efficiency and peak load reduction programs. Statewide programs will have the greatest impact and be most cost effective, as they will benefit from education and marketing and a broader market transformation process that is already underway. In fact, Act 129 explicitly states under the definition of 'quality assurance' all of the following apply: " the auditing of buildings, equipment and processes to determine the cost-effectiveness of energy efficiency and conservation measures using nationally recognized tools and certification programs" . KEEA takes this to mean that in order to provide a high level of quality assurance, the use of national standards can best provide effective programs and consistent, comparable evaluation results.

In the residential sector, statewide energy conservation education, Home performance with ENERGY STAR and ENERGY STAR Homes should be the first programs launched statewide. These programs complement and reinforce one another and will build statewide capacity among building analysts, contractors, and home builders. It is important to initiate programs which can develop consumer understanding and confidence, and which can lead to even deeper savings in the future as energy costs continue to rise.

Home Performance and ENERGY STAR programs can be supported by statewide **energy education** which should be designed and administered by a single, experienced entity. This campaign should be closely integrated and complemented by the utilities' individual efforts. Much education work has already been done in several states that can be adapted or replicated in Pennsylvania. The EPA has high quality marketing material including program brochures, logos and other materials that will save time and resources if the Energy Star Programs are adopted in Pennsylvania. In addition, the Department of Environmental Protection has developed a draft education plan that can serve as a foundation for education and outreach. The Energy Coordinating Agency has developed and launched a statewide website: [www.energywisePA.org](http://www.energywisePA.org) which could become one of the tools in this on-going education effort which is designed to educate consumers on energy efficiency and to provide as a statewide listing of energy service providers.

**Home Performance with ENERGY STAR** is a critical program to relieve the pressure of high energy costs in the residential sector. The program is a whole house approach, and can be complemented by single measure approaches, such as relamping with compact fluorescent lamps (cfls) and refrigerator

upgrades. It has excellent quality assurance protocols, and will build technical capacity and competence statewide. Both the West Penn Power Sustainable Energy Fund (WPPSEF) and the Energy Coordinating Agency (ECA) have launched successful pilot programs in the last year. These efforts have laid the groundwork for a statewide program. There are more than 75 Building Performance Institute (BPI) certified auditors in Pennsylvania, and a growing network of qualified contractors, including air sealers, insulators, carpenters, HVAC technicians, roofers and others.

In designing a Home Performance with ENERGY STAR program for Pennsylvania, it is very important to learn the lessons from other states. Providing the right type and level of incentives is key. It is also critical to conduct impact evaluations rather than relying on estimated savings. Software is notorious for overestimating savings.

While **ENERGY STAR Homes** is approximately 15% more efficient than the current building code in Pa, it is not a very high standard, and should be considered as a starting point, rather than an ending point for energy efficiency in new construction. However, as a new baseline for homebuilders across the state, ENERGY STAR Homes is the best available program. The reality is that current building code is not really enforced in many parts of the state. Code officials do not have the expertise, diagnostic equipment or inspection protocols to enforce current code. As a result, many new homes are not meeting the energy efficiency standards of the current code. Because ENERGY STAR Homes requires an independent, third party inspection, and provides technical assistance and training to architects, developers and builders, the adoption of this standard will insure that all new homes are meeting a minimum standard of energy efficiency.

The Commission should encourage utilities to offer pilot programs which go beyond ENERGY STAR Homes' minimum requirement and qualify for the federal tax credit for new construction. California's Title 20 building code is beyond ENERGY STAR Homes, and is actually very close to the standard which qualifies for the IRS new construction tax credit. The value of the federal tax credit, \$2,000 per unit, offsets much of the incremental construction cost, especially for experienced builders. In this way, California is able to leverage federal dollars to the state's energy efficiency goals.

Consistency among commercial building programs will also be important, especially for the retail sector, in which businesses with stores across the state can take advantage of economies of scale to improve a number of their buildings.

Other commercial building approaches will need to be customized to meet specific needs.

- b) Can Act 129 programs have negative impacts on existing cost effective energy efficiency and demand side programs by 3<sup>rd</sup> parties? If so, how can this Commission avoid damaging existing 3<sup>rd</sup> party efforts when socializing Act 129 energy efficiency and demand side programs through non-bypassable charges to all customers, while increasing customer participation in these services?

The EDC programs could have a negative impact on existing energy efficiency service providers only if the EDCs or their selected CSP's essentially become monopoly suppliers of services. The support for the use of CSPs in the legislation was intended to promote a robust and diverse market for energy efficiency services. If contracts are bid incorrectly, the winning CSP may become a defacto monopoly in providing energy services to a large segment of end users. The legislation clearly did not want the EDCs to take on a monopoly role, hence the insistence on using third parties. This intent is lost if a monopoly is simply established at the CSP level. Other engineering firms, energy consultants, ESCOs, or equipment vendors that are already serving that market segment would not be able to compete with the offerings of this monopoly contractor that can provide ratepayer-funded assistance. We feel that this consequence is most likely if the EDCs are permitted, or encouraged, to make use of block bidding. The language in the Draft Order that the CSP bidding process should "encourage the use of pay-for-performance" contracts with CSPs should not be interpreted as encouragement for block bidding contracts. Instead, contracts should include bonuses and penalties based on the meeting of milestones that are defined for each type.

Inclusive programs such as customized incentive or standard performance contract type programs promote the activities of existing service providers. Performance contractors and others can make use of such programs to improve the economics of their projects.

- c) Should the Commission seek to harmonize Act 129 programs with other Federal, State, local, RTO or other group programs? If so, what specific programs should this Commission encourage EDCs to replicate, incorporate, or leverage as part of their compliance filings? How can this best be achieved?

Other than the Energy Star suite of programs, KEEA suggests one example would be to take advantage of the federal tax credits. Whenever the final result will be enhanced by leveraging other incentives or programs, the Commission should encourage this as a way to either bring added value or reduce program costs. A good example is the federal tax credits. In solar water heating, the federal tax credit is quite significant, and could be an essential component of a utility program. The residential energy efficiency credits are also perfectly complementary to a Home Performance program. By providing tax credits on specific items such as insulation, Energy Star windows, heating systems etc., this provides the customer added incentives to install the measures recommended by their audit.

This is related to the need to coordinate energy efficiency and solar programs, particularly in the residential sector. To put this simply: it makes little sense to install a solar PV system on an energy hog of a house. Cross training BPI auditors to also be qualified to do solar audits is an extremely easy and effective way to be able to deliver a broad range of services cost effectively. This training process is already underway.

If existing utility programs that are required by law or regulation are expanded beyond the current requirements, that incremental program activity should count toward the goals of Act 129. For example, if a utility is currently required to fund its LIURP program at the level of .2% of gross revenues, and it expands this program to .3% of gross revenue, the savings produced by .1% of revenue should be counted toward this goal.

### 3. Total Resource Test

- a) How can the Total Resource Cost Test that must be approved by the Commission under Sections 2806.1(a)(3) and 2806.1(b)(1)(i)(I) be simplified?

It doesn't seem likely that it can be simplified to any significant degree.

- b) The Act defines "Total Resource Cost Test" (TRC test) as "a standard test that is met if, over the effective life of each plan not to exceed 15 years, the net present value of avoided monetary cost of supplying electricity is greater than the net present value of the monetary cost of energy efficiency conservation measures." Under this definition, may the Commission limit consideration of monetary costs to the costs incurred by the EDC?

No, the TRC counts all costs, including the participant and the EDC costs, and all benefits, that is electricity, natural gas, fuel oil, water etc...

- c) Can the TRC test include avoided environmental costs or other avoided societal costs?

Yes, the California Standard Practices Manual (SPM) describes the Total Resource Cost Test – Societal Version, which takes into account benefits and costs from more than an individual perspective and includes environmental benefits.

Similarly, the Massachusetts DPU Order of August 22, 2008 includes environmental benefits in its TRC Test.

- d) If the Commission limits costs considered under the TRC test to those incurred by the EDC, should the Commission exclude costs not incurred by the EDC from the test?

No, the TRC includes all costs and all benefits.

- e) If participant costs that are not paid by the EDC are included, should these costs be reduced by tax credits or credits under the AEPS Act received by the participants?

Yes, tax credits will reduce the participant's cost.

- f) What elements of the "avoided monetary cost of supplying electricity" should be included in the TRC test?

According to the Massachusetts DPU Order August 22, 2008, "Energy system costs include Program Administrator costs. Program participant costs include net equipment costs, net installation costs, and energy efficiency services costs. Energy system benefits include avoided electric generation and gas supply costs, avoided transmission costs, avoided distribution costs and low income benefits. Program participant benefits consist of both participant non-resource benefits and participant resource benefits that flow to both participants and individuals in the energy efficiency program's target market."

- g) Should these costs be valued at the "marginal costs for the periods when there is a load reduction" as required by the draft Implementation Order? What does this mean precisely?

The law seems to be requiring the use of real time pricing. In reality this may be difficult to do. One possible approach is to use default load shapes when data on actual load shape impacts are unavailable.

- h) Should the methodology for calculating the Net Present Value (NPV) and B/C ratio set forth in *The California Standard Practice Manual - Economic Analysis of Demand-Side Programs and Projects* (July 2002) be used, or is there a better alternative?

The California SPM and the Massachusetts Department of Public Utilities Order of August 22, 2008, provide excellent guidance on the TRC.

- i) What discount rate should be used in the calculation of NPV? How frequently should it be reevaluated? Should it be established for each EDC service territory, or for the Commonwealth as a whole?

A rate of 3% should be used.

- j) Should the elements used in the calculation of an EDC's total annual revenue be the same elements used to calculate the "avoided monetary cost of supplying electricity" under the TRC test?

Essentially the elements are the same. One key difference is the persistence of energy conservation benefits over a 15 to 20 year period. Thus it will be essential to calculate, on a life cycle basis, the total avoided supply-side costs to the provider, including representative values for electricity or natural gas supply, transmission, distribution, and other associated costs.

- k) The gas industry raised some interesting points on the net impact of displacing natural gas heating equipment (space and water) with electricity heating equipment. Should the TRC test include parameters to capture the consequences of net energy gains or losses in delivering alternative fuels to consumers?

The impacts of the electric utility programs on all other non-electric energy and water costs should be included in the analysis. The Total Resource Cost test considers all energy system benefits, including avoided electric generation and gas supply costs, avoided transmission costs, avoided distribution costs, and low income benefits. For fuel substitution programs, the TRC measures the net effect of the impacts from the fuel not chosen versus the impacts from the fuel that is chosen as a result of the program. TRC test results for fuel substitution programs should be viewed as a measure of the economic efficiency implications of the total energy supply system.

#### **4. Evaluation, Measurement and Verification:**

- a) Should the Commission use a statewide, independent evaluator hired by the Commission to review EDC compliance with Act 129, pursuant to 2806.1(b)(1)(i)(J)? What would be the advantages and disadvantages of consolidating this review process?

Yes. A statewide, independent evaluator will be much more efficient, cost effective and will give the Commission and the utilities much more accurate findings. Differences in approach between evaluators will make it very difficult to compare program results across utilities if multiple evaluators are used.

- b) What programs lend themselves to a "deemed savings" approach, and what programs require more rigorous pre- and post-verification processes? How often should savings estimates be reviewed and how?

Lighting change out programs can be assessed through a deemed savings approach. But even lighting may need something beyond deemed savings. CFLs often save significantly less than the projected kWh. Pre/post impact evaluation can be used to establish deemed savings for many measures and then those values can be revisited every 2-3 years as needed.

- c) The Commission has a revised draft update to the 2005 Technical Reference Manual (TRM) that provides energy savings calculations for standard measures. The draft update is ready to be reviewed by interested parties. Should the Commission use a Secretarial Letter process to seek comments on this and subsequent updates to the TRM in the future? What timetable would be optimal for periodically updating the TRM?

Every two years and the Secretarial Letter approach would probably be the quickest and least bureaucratic process approach.

- d) In addition to the TRM for standard measures, should the Commission adopt a standard measure and evaluation protocol for determining the energy savings from the installation or adoption of non-standard or custom

measures not addressed in the TRM? If so, what protocols should be adopted? Comments to date have included the following protocols: 1) International Performance and Measurement Verification Protocol; 2) ISO New England Protocol; and 3) DOE Energy Star Portfolio Manager.

#### International Performance and Measurement Verification Protocol

- e) How might the Commission simplify and streamline the monitoring and verification of data so as to maximize resources for program measures but enable a thorough evaluation of program results consistent with Act 129 requirements?

The evaluator should specify the format and the specific data that the utilities will have to provide at the beginning of the program. The Commission might even want to create a central repository of energy usage and program tracking data that could be used to streamline evaluation and significantly reduce the costs of external evaluations.

- f) Should the Commission adopt standard data collection formats and data bases for the evaluation of program benefits and results that would be used across all EDC service territories?

Yes. Again, this will reduce costs and make the evaluation process much more accurate and cost effective.

#### **5. Revenue Requirement:**

- a) The Act defines "Electric Distribution Company Total Annual Revenue" as amounts paid to the EDC for "generation, transmission, distribution and surcharges" by retail customers. What "surcharges" should be included in the calculation of an EDC's total annual revenue?

All charges that are currently on the customer bill.

#### **6. Cost Recovery Issues:**

- a) Can one class of customers have EE&C charges in excess of 2% of class revenues, due to an abundance of cost effective opportunities relative to other customer classes, while overall EE&C charges remain below 2% of revenues for the utility as a whole?

The Act clearly states that programs must benefit each customer class and that program costs must be recovered within the customer class they benefit. KEEA strongly supports an equitable distribution of the programs across customer classes. Thinking of the customer classes as residential and commercial/industrial, the distribution of allowable costs should not necessarily be strictly 50/50, but should not exceed 40/60. That is, the expenditure on one rate class should not exceed 60% of the total expenditure in any given year. Expenditures do not have to total 2%, they just may not exceed 2% of total utility revenue in any year.

## 7. CSP Issues:

- a) Does the definition of "Conservation Service Provider" (CSP) in the Act prohibit an affiliated company of an EDC from serving as a CSP to an EDC other than its affiliate?

Yes, the Act expressly prohibits EDC affiliated companies from serving as CSPs.

- b) Are there existing barriers to CSP market development that the Commission should address in the context of Act 129? For example, what data access, meter access or other barriers should the Commission accelerate resolution of in order to enhance Act 129 goal achievement?

Officially sanctioned CSPs should have access to all utility usage data (at least for residential and small commercial) The Commission should require all CSPs to sign a confidentiality agreement and insure that CSPs have all necessary and relevant customer or other data they need to properly target customers and provide services in the most cost effective manner possible. High usage is directly correlated with high savings. It will be essential for CSPs to have access to customer usage data in order to deliver services.

- c) How should the Commission ensure that EDC self supplied EE&C programs are more cost effective than similar services offered by CSPs? Should this Commission require EDCs to demonstrate in their implementation filing that their self supplied program is more cost effective than similar CSP provided services?

Yes and the utilities must honestly disclose all costs: cost of administration, outreach, program support etc..