Via U.S. Mail, Electronic Mail, and Electronic Filing

April 17, 2012

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**Re: Comments on Act 129 Energy Efficiency and Conservation Program Phase Two, Docket No. M-2012-2289411**

Dear Secretary Chiavetta and Megan Good,

The Sierra Club on behalf of its membership, the Pennsylvania Chapter of the Sierra Club, Clean Air Council, PennEnvironment, Group Against Smog and Pollution ("GASP"), and the National Resources Defense Council ("NRDC") (collectively, "the Citizen Groups") respectfully submit the following comments concerning Pennsylvania's Act 129 in response to the Pennsylvania Public Utility Commission's ("PUC" or "Commission") March 1, 2012 Act 129 EE&C Phase 2 Secretarial Letter (the "PUC Letter").

In general, the Citizen Groups wish to stress their strong support for Pennsylvania's Energy Efficiency & Conservation ("EE&C") programs, and to emphasize the great success Pennsylvania has achieved with the first phase of these programs under Act 129. The first phase has already resulted in $278 million in annual savings to electric customers, and is expected to deliver $2.3 billion in savings over the life of the program. It is thus vital that the Commission extend this success into the second phase of EE&C programs, and ensure that ratepayers and the environment continue to reap the benefit.

## I. BACKGROUND ON ACT 129

Throughout the United States, the cost of saving a kilowatt-hour ("kWh") of electric energy has proven lower—far lower—than the cost of generating that same kWh. Most utilities and states are finding that the levelized cost of saving energy, defined as the total cost of a program divided by the lifetime savings associated with the program, is in the range of 3 cents/kWh or less.[1] By comparison, a recent survey of 2010 levelized costs showed 7-9 cents per kWh for energy from a new gas combined cycle plant, and 11-14 cents per kWh for a new technology coal plant.[2] Plainly, energy efficiency is among the cheapest sources of electricity available; this reality is borne out by Pennsylvania's experience with Act 129.

The cumulative effect of efficiency investments also reduces the amount of money that utilities need to invest in fuel and operations and maintenance at power plants and, over time, reduces the need to build and upgrade power plants and to expand the transmission and distribution system. Efficiency investments also improve the reliability of the system and help reduce peak demand. Although efficiency services cost money, these investments pay for themselves in energy bill savings and provide additional benefits that investments in energy production do not. This is because much of the cost of operating power plants goes to fuel and equipment that may be largely imported from out of state. Efficiency, in contrast, is relatively labor intensive and therefore investments in efficiency result in more jobs and more money in the local economy.

In October of 2008, Act 129 was signed into law with an effective date of November 14, 2008. Act 129 requires the Commission to evaluate costs and benefits of EE&C programs, and under Act 129, a first phase EE&C program has been initiated. This program expires May 31, 2013, and has been a resounding success. Under the program, utilities have beaten targets, with efficiency efforts reducing electrical load by 41% more than required, and with an estimated lifetime impact of $2.3 *billion* in savings for ratepayers, or roughly $8 in savings for every $1 spent on the program, according to a report commissioned by PennFuture.[3]

As the first phase of the Act 129 EE&C programs comes to a close, it is critical that the second phase continues to build on these successes. Numerous jurisdictions have had continuing success with pursuing ambitious energy efficiency programs on a longitudinal basis. For example, California, Massachusetts, Nova Scotia, the Pacific Northwest, Rhode Island, and Vermont are all pursuing energy savings equivalent to 2% of sales annually on top of years' worth of efficiency gains already achieved. Similar opportunities exist in Pennsylvania.

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[1] *See* R. Neal Elliott, Rachel Gold, and Sara Heyes, "Avoiding a Train Wreck: Replacing Old Coal Plants with Energy Efficiency," ACEEE White Paper, August 2011, *available at* http://www.aceee.org/files/pdf/white-paper/Avoiding_the_train_wreck.pdf.

[2] Lazard, Levelized Cost of Energy Analysis – Version 4.0 (June 2010), attached hereto as Exhibit 1; *see also* Lazard, Levelized Cost of Energy Analysis – Version 5.0 (June 2011), attached hereto as Exhibit 2 (confirming same with additional and more recent data)

[3] *See* Optimal Energy Integrated Energy Resources "Pennsylvania 2012-2018 Energy Efficiency Goals" (December 19, 2011), at 2, *available at* http://www.pennfuture.org/UserFiles/File/FactSheets/Report_Act129goals_20111220.pdf, hereinafter "PennFuture Report".

These efficiency opportunities mean more than just savings for ratepayers, however—there are enormous environmental and public health benefits flowing from efficiency. Even a relatively modest second phase of EE&C programs under Act 129 could result in reductions in carbon dioxide emissions from Pennsylvania of 80 million tons. This is in addition to the significant reductions in air pollutants like mercury, sulfur dioxide, and nitrous oxides that are emitted by coal-fired generation that could be rendered unnecessary by investment in efficiency.

As such, the Citizen Groups strongly urge the Commission to implement a second phase EE&C program under Act 129, as described more fully below in response to the eight questions posed by the Commission in its March 1 letter.

## II. SUBSTANTIVE COMMENTS

### 1. Planning Timeline

The Commission has assembled the following timeline for development of the second phase of the Act 129:[4]

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| March 1, 2012<br><br>March 16, 2012<br>April 17, 2012 | • Release of Secretarial Letter seeking comments on future EE&C planning issues<br>• Commission stakeholder meeting<br>• Secretarial Letter Comment due date |
| May 10, 2012<br><br><br><br><br><br>June 25, 2012<br><br>July 6, 2012 | • Tentative Implementation Order on Public Meeting agenda<br>• Release of Statewide Evaluator's Pennsylvania Electricity Baseline Study Results<br>• Release of Statewide Evaluator's Pennsylvania Electricity Market Potential Study Results<br>• Tentative Implementation Order Comment due date<br>• Tentative Implementation Order Reply Comment due date |
| August 2, 2012 | • Final Implementation Order on Public Meeting agenda |
| November 1, 2012 | • If necessary, EDCs file EE&C Plans |
| February 28, 2013 | • If necessary, Commission rules on EE&C Plans |
| June 1, 2013 | • EE&C Programs begin |

[4] PUC Letter at 2.

The Citizen Groups in general find only one issue with this proposed schedule: the Statewide Evaluator's reports should be released before the May Tentative Implementation Order on Public Meeting Agenda. The two reports, the Baseline Study Results and the Electricity Market Potential Study Results, should be made available prior to the Implementation Order, to ensure that all stakeholders have adequate time to examine and evaluate the reports and their impact on the Tentative Implementation Order.

Accordingly, the release of the Statewide Evaluator's reports should be pushed up, or the release of the Implementation Order pushed back.

## 2. Length of Second EE&C Program

Under Act 129, the Commission is to evaluate the costs and benefits of EE&C programs at least once every five years. *See* 66 Pa.C.S. § 2806.1(c)(3). The Commission has called for public comment on the duration of the second phase program, suggesting durations of three, four, or five years. The Citizen Groups believe that a five-year program is the best option for Pennsylvania, for several reasons.

First, a five-year plan will help ensure that the second phase EE&C plans encompass progress towards the Act 129 2017 goals.

Second, a five-year plan will offer the most progress towards long-term reductions in peak demand. Peak demand—generally seasonal, during the hot summer months when air conditioning is used most intensively—is often met through use of older, less-efficient, and more pollution-intensive generation sources. During the peak demand 100 hours of operation during the year for which demand for electricity is at its highest, utilities bring online generation sources that are uneconomic to operate during the remainder of the year, to the detriment of both ratepayers and public health and the environment. Reductions in peak demand thus provide a great deal of "bang for the buck" in terms of reducing the costliest and dirtiest electrical generation, and having a long-term program in place enables utilities to most effectively coordinate peak demand generation assets for consumer needs.

Finally, and most importantly, a five-year plan will provide the continuity and predictability necessary to allow utilities, ratepayers, and efficiency service vendors the ability to plan their activities over longer time horizons, and therefore deliver greater efficiency benefits at lower overall costs. By contrast, shorter plans—even ones extended in series such that they approach the 2017 goals—inject unnecessary and disruptive uncertainty into the planning process. As such, the Commission should set the duration for the next phase of EE&C plans for the maximum duration under Act 129.

## 3. Inclusion of a Demand Response Curtailment Program

The Citizen Groups strongly support inclusion of a demand response curtailment program in the second phase EE&C program under Act 129, and believe that demand response measures are a cost-effective method to reduce peak demand. As noted above, peak demand reductions represent some of the areas where the greatest benefits to ratepayers and largest potential pollution reductions reside. However, given the limited funding available under Act 129, the Citizen Groups do not want demand response to come at the expense of more traditional efficiency efforts.

The Commission outlined three proposed options for demand response curtailment programs. First, demand response curtailment efforts would be postponed until after 2016 at the earliest, while additional study is performed by the Statewide Evaluator.[5] The Citizen Groups disfavor this option, as demand response is too important and beneficial a tool to be postponed so long.

As a second option, multi-year demand response reduction targets would be set for the duration of the second phase of EE&C programs, and in the event that the Commission later determines that there is not a cost-effective demand response curtailment program design, the peak demand reduction targets would be set aside.[6] Although the Citizen Groups support the goal of ambitious demand response curtailment, they believe that the uncertainty in the second option over program objectives and allocation of funding has the potential to be counterproductive.

The third option proposed by the Commission would be to require electric distribution companies ("EDCs") to set aside a portion of their next-round EE&C plan budgets to fund demand response programs, should the Commission determine that such programs could be cost effective, with the reductions being met by May 2017.[7] Although it is not ideal, the Citizen Groups support this third option, as it allows utilities and other stakeholders to plan around funding for demand reduction programs. The Citizen Groups feels that setting aside 10% of plan budgets for demand response curtailment would be an appropriate path to pursue while the Commission finalizes its determinations concerning cost efficacy of such programs. However, it is vital that the Commission make plain now that, should it in the future determine that demand response curtailment programs are not cost effective, that the budget previously set aside for them would be folded back into the EE&C plan budgets. The worst possible outcome for ratepayers and the environment would be for that funding to be set aside, but then ultimately lost.

As an additional comment, the Citizen Groups note that it is imperative that distributed diesel generation not be considered "demand response" in the second phase EE&C programs. Distributed diesel—such as on-site "backup" generators—is not demand response: it is generation, and an exceptionally inefficient and pollution-intensive form of generation at that. Diesel generation units often lack any real form of pollution controls, and exhaust their pollution into human environments, elevating the levels of dangerous pollutants like sulfur dioxide and particulate matter at lung-level, all while failing to actually decrease total generation. It should accordingly have no part in the second phase programs.

[5] PUC Letter at 4.
[6] *Id.*
[7] *Id.*

4. Aligning EDC Targets and Fundraising Using Dollars per MWH of Expected Reductions

Noting that since the funding levels for an EDC's program under Act 129 are set at no more than 2% of that EDC's 2006 total annual revenue[8] there is diversity of funding for each EDC to reach efficiency targets, the Commission requested input as to whether or not those imbalances should be addressed. Specifically, the Commission asked for public comment on whether or not funding levels for EDCs with larger amounts available should be reduced, or if reduction targets should be set for the EDCs based on an equal dollars per megawatt-hour of expected reductions.[9]

The Citizen Groups believe that the Commission should adopt at the very least a uniform 1% annual reduction target for each EDC without reference to availability of funding.[10] The resounding success of the first phase of EE&C programs—in which a uniform 1% annual reduction target was set for all EDCs—indicates that the funding levels for the various EDCs has been adequate to meet the goals of Act 129. To undercut progress on the front end of the second phase by baking into the program a less ambitious set of goals or a reduction in overall funding for efficiency would thwart the purposes of the Act, and would fail to deliver important benefits to consumers.

If specific EDCs feel that they are unable to reach these targets with the level of funding authorized under Act 129, the best approach would be for those EDCs to petition the Commission for a variance to their reduction targets on an individual basis, with such variance being conditioned upon a showing, subject to public notice and comment, that the EDC cannot achieve the reduction target with their funding. Such a process would ensure that the EDC and the Commission would have the benefit of additional information from other entities with energy efficiency experience. Regarding different EDCs separately and on such a case-by-case basis makes the most sense—any result in which one utility's low revenues could trigger weaker efficiency targets from other utilities would be to the detriment of ratepayers and the environment.

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[8] *See* 66 Pa.C.S. §2806.1(g) ("The total cost of any plan required under this section shall not exceed 2% of the electric distribution company's total annual revenue as of December 31, 2006.").

[9] PUC Letter at 5.

[10] The Citizen Groups believe that a 1% annual reduction is eminently feasible, and that the Commission should in fact set the annual reduction target as the maximum achievable with the funding allocated under Act 129. Given the enormous benefit to consumers and the environment flowing from investment in efficiency cited above (i.e., a return of $8 for every $1 spent), the Citizen Groups wish to stress that a 1% target should not be adopted as a limit on progress if the Commission determines that even more efficiency can be achieved. The Citizen Groups accordingly urge the Commission to investigate the possibility of setting a 2% efficiency target.

5. Inclusions of a Reduction Target Carve-Out for the Government, Educational, and Non-Profit Sector

As noted in the March 1 PUC letter, the first phase of EE&C programs under Act 129 "required each EE&C Plan to obtain at least 10% of the required reductions in consumption from units of Federal, State and local government, including municipalities, school districts, institutions of higher education and non-profit entities."[11] The Commission now seeks input on whether this 10% carve-out should continue in the next phase of EE&C programs.

The Citizen Groups support continuation of the 10% carve-out for government, educational, and non-profit sectors.[12] These sectors have a unique ability to foster additional positive externalities above and beyond the efficiency, public health, and environmental benefits inherent in EE&C programs. Government leadership helps to normalize efficiency investments, aiding in the speed by which they are adopted by the consuming public at large. Government and educational buildings can also serve as showcases for efficiency products and services—members of the public can encounter lighting or insulation or other energy-efficient innovations in schools, government offices, and parks more readily than they might in private homes or businesses. Similarly, institutions in these sectors consume energy for the benefit of the public, and thus any benefits and cost savings ultimately redound back to the public. Additionally, these sectors include institutions that are stable and capable of planning on long time horizons; they are thus well-positioned to make long-term investments in energy efficiency and thereby maximize the benefit from expenditures from Act 129's limited pool of funding. These sectors also have the ability to issue bonds to fund improvements for which the debt service is actually considerably less than the energy savings, thus eliminating the upfront costs and ensuring positive cash flow over the lifetime of the improvements.

In addition, the Commission requests comment from parties on developing EDC on-bill financing programs for government, educational, and non-profit sectors.[13] The Citizen Groups strongly believe that on-bill financing represents best practices for implementing efficiency measures under any EE&C program. Use of on-bill financing in these sectors would increase implementation speed and overall efficacy of EE&C efforts, and would have the added benefit of being a good "proof of concept" demonstration of on-bill financing for subsequent roll-out state wide.

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[11] *Id.*

[12] The Citizen Groups, moreover, believe that such a carve-out is consistent with the requirements of Act 129. *See* 66 Pa.C.S. § 2806.1(b)(1)(i)(B) ("A minimum of 10% of the required reductions in consumption under subsections (c) and (d) shall be obtained from units of Federal, State and local government, including municipalities, school districts, institutions of higher education and nonprofit entities.").

[13] PUC Letter at 6.

6. Inclusion of a Low-Income Sector Carve-Out

The first phase of EE&C programs under Act 129 additionally included a carve-out for households at or below 150% of the Federal Poverty Income Guidelines; the Commission now seeks comment on whether or not that carve-out should be carried forward to the second phase of programs, and whether or not the carve-out should be expanded 250% of the Guidelines.[14]

The Citizen Groups support continuing the carve-out for low-income households, and note that such a carve-out is consistent with the requirements of Act 129.[15] There are strong economic and environmental justice reasons in favor of ensuring that funds are directed towards low-income households: such households spend a higher proportion of their income on energy expenses than do wealthier households, and therefore the savings from EE&C programs are more meaningful to them. Similarly, low-income households often lack the financial resources to cover the up-front costs of energy efficiency, and thus directing funds under Act 129 towards the low-income sector is particularly important. Additionally, many low-income households suffer from the problem of split incentives: although renters often pay utility bills, they do not control capital investment decisions. Directing funds to landlords serving the lower income market can help rectify this issue.

As a result, the carve-out should remain in the second phase programs. Expanding the carve-out to households at or below 250% of the Federal Poverty Income Guidelines should only be undertaken once opportunities for the funds in the carve-out to benefit households at or below 150% have been fully deployed, to make certain that the most needy households are the ones that benefit first.

7. Transition Issues

The Commission is requesting public comment on three transition issues:

- One, whether or not EDCs that exceeded their targets in the first phase should receive credit towards targets in the second phase;
- Two, whether or not unspent budgets for individual EDCs from the first phase should be reconciled with ratepayers; and,
- Three, how to set the baseline for incremental reductions in the second phase of programs.

On the first issue, the Citizen Groups believe that the best course of action is a balanced approach, in which some, but not all, extra energy savings may be applied to the second phase programs. Given the realities of how cost-effective efficiency is, it is important to ensure that EDCs are continually incentivized to ambitiously pursue and exceed their reduction targets; thus, an EDC should not be "punished" for exceeding targets early on by having those reductions be

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[14] *Id.*

[15] *See* 66 Pa.C.S. § 2806.1(b)(1)(i)(G) ("The plan shall include specific energy efficiency measures for households at or below 150% of the Federal poverty income guidelines.").

ignored in the next phase of planning. However, allowing all extra reductions to be applied to the second phase could potentially bring EE&C programs to a standstill for some utilities, and thus stall continual progress. The Citizen Groups thus advocate that not all prior reductions be carried over to the second phase of programs; this best serves the twin goals of signaling to EDCs that they will be rewarded for surpassing their reduction goals, while maintaining pressure for continued reductions. Indeed, because carrying over is a sub-optimal way to incentivize EDCs to exceed efficiency targets in ways that benefit consumers, the public, and the environment, the Commission should further consider employing rate of return bonuses in lieu of carrying over.

On the second issue, the Citizen Groups believe that any leftover funds should be applied to EE&C programs. Should additional funding be available for some EDCs when the second phase of EE&C programs begins, the leftover funds should simply be applied towards achieving those phase two goals. This would ensure that the funding contemplated in Act 129 is applied to achieving positive efficiency results for the public.

On the third issue, the Citizen Groups strongly oppose any changes in the baseline for reductions between the first and second phase EE&C programs, and therefore supports the Commission's suggestion to "maintain the same baseline 2009-2010 energy year forecast and have the next percentage reductions be added to, and be cumulative, with the Phase One percentage reduction targets."[16] To do otherwise would add unnecessary uncertainty to the second phase programs, and would invite confusion and gamesmanship to the process. Act 129 already, moreover, includes flexibility for EDCs in the form of "provisions made for weather adjustments and extraordinary loads that the electric distribution company must serve," obviating any need for adjustments to the baseline.[17]

## 8. Other Act 129 Program Design Issues

Finally, the Commission indicated that it is seeking public comment on other issues relating to second phase EE&C programs under Act 129. In particular, the Citizen Groups would like to stress to the Commission that its current application of the total resource cost ("TRC") test for evaluation cost efficacy of efficiency measures fails to capture numerous benefits from application of efficiency measures. For example, many methods for reducing electrical demand also reduce demand for things like natural gas: better building insulation and double-paned windows can decrease the need for both cooling via electrically-operated air conditioners and heating from gas furnaces, yet the current methodology employed by the Commission in the TRC only counts the former, while excluding the latter. This necessarily skews the analysis, making some efficiency measures appear less cost-effective than they actually are. Similarly, reduction in overall electrical load as well as reductions in peak demand translate to enormous public health and environmental benefits: when inefficient peaking plants are operated less (or not at all), or when less fossil fuels are burned to generate electricity in general, fewer harmful pollutants are released, resulting in better air quality, fewer asthma attacks or instances of

[16] PUC Letter at 7.
[17] *See* 66 Pa.C.S. § 2806.1(c)(1)-(2).

respiratory distress, and longitudinal improvements in public health. Yet, none of these benefits are included in the Commission's calculus for determining cost efficacy, despite the fact that these benefits are both real and readily ascertained.

The Citizen Groups thus strongly urge the Commission to revise its implementation of the TRC to incorporate both savings due to reductions in consumer use of oil and gas, and benefits due to improvements in air quality and public health. This will give the Commission a more accurate picture of the true value of elements of contemplated EE&C programs, and will ensure that ratepayers and members of the public receive maximal benefit.

## III. CONCLUSION

Accordingly, for the foregoing reasons, the Citizen Groups respectfully request that the Commission implement second phase EE&C programs under Act 129 consistent with the recommendations above.

Sincerely,

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