

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio)	
Edison Company, The Cleveland Electric)	
Illuminating Company, and The Toledo)	Case Nos.12-2190-EL-POR
Edison Company For Approval of Their)	12-2191-EL-POR
Energy Efficiency and Peak Demand)	12-2192-EL-POR
Reduction Program Portfolio Plans for 2013)	
through 2015)	

**DIRECT TESTIMONY
OF
JEFFREY LOITER
ON BEHALF OF THE
OHIO SIERRA CLUB**

October 5, 2012

Table of Contents

I.	INTRODUCTION.....	1
II	COMPANIES' PARTICIPATION IN PJM BASE RESIDUAL AUCTIONS.....	4
III	FLAWS IN THE COMPANIES' PLANS.....	7
IV.	CONCLUSION.....	16

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Jeffrey Loiter and my business address is Optimal Energy, Incorporated, 14
4 School Street, Bristol, VT 05443

5 **Q. On whose behalf are you testifying?**

6 A. I am testifying on behalf of Sierra Club.

7 **Q. Mr. Loiter, by whom are you employed and in what capacity?**

8 A. I am employed as a Managing Consultant by Optimal Energy, Inc, a consultancy
9 specializing in energy efficiency and utility planning. In this capacity, I direct and
10 perform analyses, author reports and presentations, manage staff, and interact with clients
11 to serve their consulting needs. My clients include utilities, NGOs, state energy offices
12 and efficiency councils, and third-party program administrators. For example, I provide
13 Orange & Rockland Utilities with consulting services on program design and
14 implementation and participate on the consultant team supporting the work of the
15 Massachusetts Energy Efficiency Advisory Council.

16 **Q. Please summarize your work experience and educational background.**

17 A. I have 15 years of experience in environmental and economic consulting. For the past 6
18 years, I have been engaged in a variety of work at Optimal Energy related to energy
19 efficiency program design and analysis. For example, I prepared two documents for
20 inclusion with EPA's *National Action Plan for Energy Efficiency (NAPEE)*: a guidebook

1 on conducting efficiency potential studies, and a handbook describing the funding and
2 administration of clean energy funds.¹

3 In my capacity as a Managing Consultant at Optimal, I also advise clients on
4 efficiency program design and implementation. For example, I recently contributed to a
5 5-year Energy Efficiency and Demand Response Plan for the Tennessee Valley
6 Authority. I have also participated in several studies of efficiency potential and
7 economics, including ones in New York, Vermont, Texas, Massachusetts, and Prince
8 Edward Island. These studies have ranged from macro-level assessments to extremely
9 detailed, bottom-up assessments evaluating thousands of energy efficiency measures
10 among numerous market segments. In addition, I support a utility client that participates
11 in the ISO New England Forward Capacity Market with their efficiency resource.

12 Prior to joining Optimal Energy in 2006, I was a Senior Associate at Industrial
13 Economics, Inc. in Cambridge, Massachusetts. I have a *B.S. with distinction* in Civil and
14 Environmental Engineering from Cornell University and an *M.S.* in Technology and
15 Policy from the Massachusetts Institute of Technology. My resume is provided as Exhibit
16 1.

17 **Q. Have you previously testified before the Public Utilities Commission of Ohio (“the**
18 **Commission” or “PUCO”)?**

19 A. No.

20 **Q: What is the purpose of your testimony?**

21 A: The purpose of my testimony is to provide comments on the 2013-2015 Energy
22 Efficiency and Peak Demand Reduction Program Portfolio Plans (“Plan”) of Ohio Edison

¹ These documents can be found at http://www.epa.gov/cleanenergy/documents/potential_guide.pdf and http://epa.gov/cleanenergy/documents/clean_energy_fund_manual.pdf, respectively.

1 Company, The Cleveland Electric Illuminating Company, and The Toledo Edison
2 Company (“FirstEnergy” or “Companies”) and to recommend changes that would, in my
3 opinion, benefit the Companies’ customers and Ohio citizens. My testimony focuses on
4 the programs for non-residential customers and on the issue of bidding DSM resources
5 into the PJM forward capacity market.

6 **Q: Please summarize your conclusions.**

7 A. My review and assessment of the Companies’ DSM Plan (“Plan”) and related materials
8 leads me to conclude that 1) the Companies are inappropriately withholding planned
9 efficiency savings from the PJM forward capacity market and 2) the Plan is flawed and
10 will lead to weak or uncertain achievement of the required benchmarks.

11 **Q: What actions do you recommend the PUCO take in this proceeding?**

12 A. I recommend that the PUCO take the following actions:

- 13 1. Require Companies to bid planned efficiency and demand response savings into the
14 next PJM Base Residual Auction
- 15 2. Deny the Companies’ request to retain the option to petition for reconsideration of the
16 order related to savings ownership
- 17 3. Direct the Companies to reduce spending on efficiency kits for small enterprise
18 customers in favor of alternative strategies better suited to this customer class, such as
19 a “direct install” program
- 20 4. Direct the Companies to eliminate incentives for baseline lighting technologies,
21 regardless of the efficiency of existing fixtures
- 22 5. Direct the Companies to enhance the role of account executives with respect to
23 efficiency programs from “advisory” to an integral part of the sales strategy.

1 6. Direct the Companies to acquire more savings from large customers participation in
2 FirstEnergy programs, rather than from actions these customers would take regardless
3 of the Companies involvement or financial contribution.

4 **II COMPANIES' PARTICIPATION IN PJM BASE RESIDUAL AUCTIONS**

5 **Q: Why do you recommend that the Companies be required to bid planned efficiency**
6 **and demand response savings into the PJM Base Residual Auction?**

7 A: First and foremost, the failure to bid the savings from planned efficiency program savings
8 results in substantially higher costs for FirstEnergy's customers. This comes in the form
9 of both lost revenue from the proceeds of the auction and from the likelihood that
10 FirstEnergy's efficiency and demand response resources would likely have reduced the
11 clearing price of the auction, thus saving FirstEnergy's customers money on *every* MW
12 needed to fulfill their load obligation.

13 **Q: Does FirstEnergy give any reasons why they choose not to bid planned savings into**
14 **the auctions?**

15 A: Yes, the Companies' objections to bidding the savings center on uncertainty regarding
16 both the achievement and ownership of future savings.

17 **Q: Are these concerns warranted?**

18 A: No. First, the PJM BRA framework includes not only the initial auction three years in
19 advance of the delivery date for capacity, but additional incremental auctions in which
20 market participants can continue to buy and sell the obligation to provide capacity.
21 Should the Companies find that, say, two years after the initial auction, they believe they
22 will not achieve their forecast savings, they can shed part of their obligation in the later
23 incremental auctions, thus mitigating this risk.

1 Second, to the extent that the Companies are unwilling to stand behind their
2 projections for program results, the Commission should adopt the recommendations
3 made in my testimony and in the testimony of Environmental Intervenor's other witness
4 to add assurance that they will in fact achieve savings in excess of the required minimum
5 benchmarks.

6 **Q: Is there precedence for this type of bidding approach?**

7 A: Absolutely. Other utilities in both ISO-NE and PJM successfully bid future, planned
8 efficiency resources into the market, particularly when based on legislatively-mandated
9 spending and savings targets. For example, I advise a client that participates in the ISO
10 New England Forward Capacity Market (FCM) that has bid most of their planned
11 efficiency savings into several auctions. I am also aware the Efficiency Vermont
12 participates in the ISO-NE FCM with most of their planned efficiency resource.

13 **Q: The Companies have raised concern that the Commission decision in the ESP case
14 regarding ownership of savings that result from participation in the Companies'
15 programs will cause a "chilling effect" on program participation. Do you share this
16 concern, and if not, why not?**

17 A: No, I do not. I disagree with the Companies' interpretation of information they provided
18 regarding this issue. These data purport to show that 45 percent of commercial and
19 industrial customers who participated in un-named programs in Pennsylvania opted to
20 retain ownership of the energy efficiency resource attributes, representing approximately
21 half of the associated projects in energy savings (SC Set 3-INT-81, Attachment 1). This
22 datapoint has no bearing on the Companies' likely program achievement.

23 **Q: Why not?**

1 A: The fact that some customers choose to take advantage of a potentially better deal (in the
2 form of retained ownership rights to savings) when it is offered does not prove that these
3 same customers would NOT take an offer that did not include these rights. It is unlikely
4 that customers will forego hundreds or thousands of dollars in rebates or incentive
5 payments for the much smaller monetary benefits received from direct participation in the
6 auction, particularly given the resources and expertise needed to support that
7 participation. Another way to look at this result is that despite the perceived value of
8 these rights, less than half the customers chose to retain them. This could imply a much
9 lower hurdle for the Companies to retain rights to all or nearly all of the savings from
10 program participants, since half may already be ready to give them up. The Companies
11 have not provided sufficient evidence for the Commission to determine that they will be
12 unable to achieve their planned savings when they retain ownership of the credits as
13 directed to by the Commission.

14 **Q: But what if FirstEnergy is right and participation does suffer? Won't they then fall**
15 **short of their PJM obligation?**

16 A: No, because the structure of the market allows for adjustments to obligations at a later
17 date, as described above. In fact, to the extent that the incremental auctions clear at a
18 price lower than the original base residual auction, the Companies can actually make
19 money on this difference. For example, the second and third incremental auctions for the
20 2012/2013 delivery period in the zone in which the Companies' operate (RTO) closed
21 lower than the original Base Residual Auction. This was also true for the first and second
22 incremental auctions for the 2013/2014 delivery period.² As a result, the Companies

² *Second Performance Assessment of PJM's Reliability Pricing Model*, Published by The Brattle Group, 26 August 2011; PJM RPM Incremental Auction Results, <http://pjm.com/markets-and-operations/rpm/~media/markets->

1 could have shed part of their obligation and earned the difference of the clearing prices
2 for that quantity.

3 **Q: What then is your recommendation to the Commission on this topic?**

4 A: I recommend that the commission deny the Companies' request to retain the option to
5 petition for reconsideration of the order related to savings ownership.

6 **III FLAWS IN THE COMPANIES' PLANS**

7 **Q: You stated that you conclude the Plan is flawed and will lead to weak or uncertain
8 achievement of the benchmarks. What is the basis for this conclusion?**

9 A: There are several contributing factors.

- 10 • The Companies' programs are under-funded, leading to high free-ridership and risk of
11 under-performance.
- 12 • The Companies' deployment of "kits" (high free-rider) instead of a direct install
13 program.
- 14 • The Companies are providing incentives for baseline lighting technology.
- 15 • The Companies are not fully utilizing or encouraging account representatives to
16 promote new efficiency projects at large customer facilities.
- 17 • The Companies are counting substantial savings from demand response actions that
18 are unrelated to program efforts and that would take place regardless of Companies
19 actions.

20 Taken together, these concerns create uncertainty that FirstEnergy will meet its benchmarks.

21 **Q: Please explain how the programs may be under-funded.**

ops/rpm/rpm-auction-info/2012-2013-third-incremental-auction-report.ashx, <http://pjm.com/markets-and-operations/rpm/~media/markets-ops/rpm/rpm-auction-info/2013-2014-first-incremental-auction-report.ashx>,
<http://pjm.com/markets-and-operations/rpm/~media/markets-ops/rpm/rpm-auction-info/2013-2014-second-incremental-auction-report.ashx>

1 A: The programs as filed take shortcuts towards meeting the benchmarks, including as over-
2 reliance on inexpensive efficiency kits and no-cost savings claimed from customers’
3 demand response efforts outside of program efforts. While cost-efficiency is an important
4 consideration in program design, I believe that it is possible for programs to be too
5 inexpensive and therefore risk being penny-wise and pound-foolish.

6 **Q: How can the programs be too inexpensive?**

7 A: Low incentives may not be sufficient to induce program participation by customers,
8 particularly if not supported by a robust support effort that includes marketing, trade ally
9 development, and efficient customer engagement systems. A recent program evaluation
10 found trade allies indicating that incentives may in fact be too low (ADM Associates,
11 Appendix G, 2011 Evaluation of EnergySaveOhio Commercial and Industrial Energy
12 Efficiency Incentive Programs, Case No. 12-1533-EL-EEC, et al. at 20, Table 5-19). If
13 incentives are too low, they play a limited role in customer decision-making. As a result,
14 few customers are prompted to switch from standard efficiency to high efficiency
15 options, and those that do take advantage of the incentive are more likely to have made
16 that choice even in the absence of the incentive. The latter group are known as “free-
17 riders.” They represent wasted program spending, because the amount of efficiency
18 investment has not increased and energy consumption has not been reduced below what it
19 would have been in the absence of the program spending. That fact that the Companies’
20 benchmarks are in terms of gross rather than net savings does not mean that they should
21 PLAN for high free-ridership, at the expense of ratepayers.

22 **Q: What should the Companies do to remedy this situation?**

1 A: First, the Companies should benchmark their incentives with neighboring utilities,
2 particularly those within Ohio. Higher incentives will induce greater participation and
3 lower free-ridership, potentially lowering the real cost of efficiency savings. It will have
4 the added benefit of minimizing trade ally and customer confusion regarding incentive
5 levels in areas near the borders between two different utilities. Second, they should
6 continue to closely monitor free-ridership, particularly for basic efficient lighting
7 products that are already becoming widespread.

8 **Q: What other concerns do you have about the Plan?**

9 A: The proposed programs for non-residential customers (both small enterprise and
10 mercantile customers) rely on problematic measures or program approaches for large
11 portions of their savings (both energy and demand).

12 **Q: Can you provide an example of this?**

13 A: Yes. One of the most problematic aspects of the proposed small enterprise program is the
14 over-reliance on efficiency kits. Similar to the kits that will be provided to residential
15 customers, these represent nearly 40 percent of the cumulative three-year savings for the
16 small commercial sector for Ohio Edison and nearly 30 percent of the cumulative three-
17 year savings for this sub-sector for the other two operating companies. Furthermore, these
18 kits have a measure life of just three years. That is, while they will contribute to the 2013-
19 2015 benchmarks, they provide little in the way of lasting savings for 2016 and beyond.
20 After 2016, the remaining savings from the Small Enterprise segment of the Companies'
21 programs will be dramatically diminished. Last, I reference concerns regarding the
22 Companies' assumed in-service rate and savings estimates for the kits made by Glenn

1 Reed in his testimony. I share those concerns with respect to the kits in the small
2 enterprise program.

3 **Q: Why aren't the kits a good strategy for addressing small enterprise customers?**

4 A: An efficiency program must address the customer's barriers to choosing efficient
5 equipment, regardless of the market or customer type being targeted. Smaller business
6 customers face several barriers in the efficiency marketplace. First, these firms rarely
7 have personnel who can focus their attention on issues of facility management and energy
8 use, even if they had the knowledge and skill to do so. Second, smaller firms have more
9 limited access to capital. Because higher efficiency equipment typically requires a larger
10 up-front investment which is then recovered through lower operating costs, these firms
11 may not be able to make economically beneficial investments at all. Third, the
12 management staff of smaller firms are typically wearing multiple hats and have limited
13 time to devote to reviewing offers, negotiating with vendors, and completing paperwork.
14 The efficiency kits address, at best, only the issue of limited capital, because the
15 equipment is provided for free. The program does not help the customer understand the
16 benefits of investing in higher efficiency equipment and falls far short of addressing
17 enough of the customer's energy use to make a meaningful impact on their overall energy
18 bill.

19 **Q: Can you recommend an alternative program strategy?**

20 A: Yes. A common strategy used by efficiency programs to addresses these barriers is the
21 direct install model. This approach combines high incentives with simple program
22 requirements and prescriptive measures to easily address many of the most common
23 efficiency opportunities in small businesses. Other utilities have found that this approach

1 results in very high rates of participation in the targeted customer base. The direct-install,
2 turn-key model was first offered by National Grid in 1990 in Massachusetts, and has
3 continued to be a part of Massachusetts' electric utility program. AEP-Ohio currently
4 runs a successful Express program (recently approved by the Commission) that provides
5 participating small businesses with a range of services to overcome these barriers.

6 **Q: Do you have concerns with any other areas of the programs?**

7 A: Yes, another example is related to the type of technology for which the Companies will
8 provide an incentive. The Companies' interrogatory response to SC Set 1-INT-48
9 (Attachment 2) states that standard 32W T8s are considered baseline technology. That is,
10 they represent the lowest efficiency equipment that can be installed and serve as the basis
11 of comparison for more efficiency technologies. On the other hand, the Companies'
12 interrogatory response to NRDC Set 3-INT- 31 (Attachment 3) indicates that the program
13 will provide customers with rebates for these standard T8s in situations where the
14 customer is upgraded from older T12 lighting. The Energy Independence and Security
15 Act of 2007 (EISA) eliminated manufacturing of T12s and low-efficiency T8s, so they
16 will soon be disappearing from business installations without any influence on the part of
17 the Companies. While it is appropriate to count the additional savings from a customer's
18 existing T12 baseline for a short period of time (as is the case in, for example,
19 Massachusetts), the Companies should not settle for bringing these customers up to
20 standard T8s. Doing so fails to help transform the market towards the higher-efficiency
21 choice and can create confusion among customers and implementers regarding what
22 qualifies as an efficient lighting choice.

23 **Q: What do you recommend be done instead?**

1 A: It takes resources (both time and money) to reach customers and convert them to program
 2 participants. Rather than stop at the baseline technology they will soon reach as a result
 3 of federal standards, the program should bring all customers with whom they engage to
 4 the high performance lighting fixtures that are the focus of the rest of the lighting
 5 program. The greater savings from the higher efficiency technology come at very little
 6 additional cost, particularly when you consider the additional administrative cost of
 7 trying to reach this same customer again at a later date to bring them to the higher
 8 efficiency level. For example, the incremental cost of a high performance 2-lamp T8
 9 fixture over a standard T8 fixture is just \$18, compared with a cost of \$100 for the fixture
 10 retrofit in the first place, yet this increases savings by almost 50 percent.

<u>2-lamp, 4-foot fixtures</u>	<u>Wattage</u>	<u>Savings (Watts)</u>
T12 existing	94	N/A
T8 baseline	59	35
HPT8 efficient	43	16
	<u>Cost</u>	<u>Savings (Watts)</u>
T12 to HPT8 retrofit	\$100	
HPT8 vs. T8 incremental	\$18	16
Assumed cost of T12 to standard T8 retrofit	\$82	35
increase from T8 to HPT8 as target equipment	22%	46%

11 Source: State of Illinois Energy Efficiency Technical Reference Manual

12 Furthermore, setting a uniform minimum eligibility (rather than one based on the
 13 customer's existing equipment) avoids contractor and customer confusion regarding
 14 eligible products.

15 **Q: Is this a new approach?**

16 A: No, other utilities in Ohio have already removed incentives for T12 to standard T8
 17 fixtures from their programs. Duke Energy Ohio announced in February that they would

1 eliminate these incentives in late 2012, requiring now-baseline equipment to be
2 purchased by July 15, 2012 and installed no later than October 15, 2012.³

3 **Q: Are your recommendations limited to the programs for smaller customers?**

4 A: Not at all. I have recommendations regarding programs for larger “mercantile” customers
5 as well. To begin with, I note that these customers represent a large portion of the
6 Companies’ electric load (38 percent across all three EDUs, according to data presented
7 in Appendix C-3, PUCO 5A) and a proportionate portion of the available savings (27
8 percent across all EDUs, same source). Furthermore, the cost of savings from large
9 customers tends to be lower than for smaller commercial and residential customers.
10 FirstEnergy’s own projections for the three EDUs have the small enterprise programs
11 costing twice the amount of the large enterprise programs on a dollar-per-lifetime-MWh
12 basis, despite the prevalence of the very inexpensive efficiency kit savings in the former.
13 Best practice programs therefore place substantial effort and resources into working with
14 these customers to generate program savings. The Companies fail to propose programs
15 that will leverage these customers’ potential to the fullest.

16 **Q: What do you recommend be done differently?**

17 A: To begin with, the Companies need to realize that reaching large commercial and
18 industrial accounts is best accomplished through dedicated account executives.
19 Unfortunately, the Companies state that their existing large customer account executives
20 will serve only an “advisory role” for the programs. This fails to leverage these important
21 relationships for efficiency. Account executives should be *selling* efficiency to their
22 accounts as an integral part of that relationship. Furthermore, the account executives

³ See <http://www.duke-energy.com/ohio-business/smart-saver/smart-saver-incentive-updates.asp>, “Incentives for T12 to standard T8 and T5 retrofits to end.” Dated 13 February 2012, accessed 2 October 2012.

1 should be utilized as a key source of information on the efficiency needs of this customer
2 segment. Program updates should be based on discussion with and feedback from these
3 customers, not just a bundle of information that account executives pass along.

4 **Q: Do you have any other concerns about the large customer programs?**

5 A: Yes. Similar to my concerns with the use of the efficiency kits in the small enterprise
6 sector, it seems that a substantial portion of the savings in the large customer segment,
7 are coming from measures with very high levels of potential free-ridership. This is true
8 for both energy and demand savings, and even more so than in the small enterprise
9 segment. In fact, while the Companies claim these savings are reasonable and within the
10 bounds of Ohio law and practice, they would likely not be acceptable in other
11 jurisdictions.

12 **Q: What savings are you specifically concerned with?**

13 A: I am most concerned with the demand savings from customers' existing participation in
14 demand response markets and from mercantile customers self-direct projects. The
15 Companies are proposing to claim savings from demand response actions by market
16 participants that are occurring or will occur without any intervention from the Companies
17 or their programs. In effect, these savings are the result of the market baseline demand
18 response activity. These are, without debate, "free-rider" savings and are therefore not
19 attributable to the Companies. The Companies claim that this should not be relevant to
20 the discussion, stating that they "are not aware of a specified requirement that a utility
21 needs to offer an incremental program incentive to the resources participating in such a
22 program" (SC Set 2-INT-70, included as Attachment 4). While it is true that incentives
23 are not the only way to influence customer behavior towards efficiency investments or

1 demand response program participation, the Companies have not provided any indication
2 that they took any action, financial or otherwise, to cause the subject demand response
3 savings to exist. If no action is taken by the Companies, there is no program. I am not an
4 attorney, but I interpret the legislation to require the utility to offer programs in order to
5 demonstrate compliance with the benchmarks, or make use of mercantile customer
6 capabilities, “existing or new.” In my opinion, the law does not allow the Companies to
7 “take” another’s efficiency or demand response to demonstrate compliance. If that were
8 the case, then the Companies could also take credit for savings resulting from, say, a local
9 climate action group passing out CFLs on Election Day. The point of the energy
10 efficiency and demand reduction benchmarks is to create activity beyond what would
11 have happened anyway. Otherwise, there would be no reason to have benchmarks. These
12 same objections hold true for the savings from self-direct projects at large mercantile
13 customers.

14 **Q: What is the effect of these savings on the overall portfolio?**

15 A: The peak demand savings from customer demand response efforts represent one-half to
16 two-thirds of the total demand reduction from the entire proposed portfolio. The
17 mercantile self-direct customer savings represent approximately one-fifth of the proposed
18 energy savings. Absent these savings, which I recommend be denied by the Commission,
19 the Companies have not presented a plan that will achieve the peak demand reduction
20 benchmarks over the next three years.

21 **Q: What remedy do you recommend to address this concern?**

22 A: There are many program options available to address the large customer class that
23 provide a much stronger connection between program spending and program savings. I

1 recommend that the companies re-allocate their spending to achieve a much higher
2 proportion of their savings from focused efforts with these customers, through programs
3 that identify cost-effective equipment upgrades and planned process improvements.

4 **IV. CONCLUSION**

5 **Q: Does this conclude your testimony?**

6 A. Yes, but I reserve the right to add or modify my testimony based on new or additional
7 information received or discovered.

CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of the foregoing *Direct Testimony of Jeff Loiter* has been served upon the following parties via electronic mail on October 5, 2012.

/s/ Christopher Allwein
Christopher J. Allwein

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Mr. Loiter has over 14 years of consulting experience in energy and natural resource issues. His energy experience includes policy, planning and program design, research on renewable and efficiency technologies, electricity transmission systems, integrated resource planning and savings verification. As a Managing Consultant, Mr. Loiter manages projects, oversees staff development, and contributes to firm management in the areas of hiring and business development.

PROFESSIONAL EXPERIENCE

Optimal Energy, Inc.

Bristol, VT

Managing Consultant, 2006-present

- Managing Optimal's participation in a team developing a Five-Year Energy Efficiency and Demand Response Plan for the Tennessee Valley Authority. Optimal's role focused on programs for the commercial sector in TVA's service territory, encompassing efforts to reach a variety of markets and end-uses, including specific offerings for both very large and small commercial entities.
- Supporting Efficiency Vermont Business Energy Services group with technical analysis, market research, and program design consultation. Recent projects include market characterization studies of refrigeration, lodging establishments, and food service entities; and developing several Technical Resource Manual entries.
- Supporting Massachusetts Energy Efficiency Advisory Council on program planning and implementation and technical analysis. Currently participating in the CHP Working Group, guiding program implementation strategies and analytical approaches.
- Supporting program implementation and on-going program design and development for Orange and Rockland Utilities. Previously managed the preparation of a DSM plan and Commission filings for this client. The project included on-site customer audits and residential surveys, efficiency program designs, and an efficiency potential study.
- Prepared comments and related materials on utility IRP filings in support of the Missouri Department of Natural Resources. Review focused on compliance with IRP regulations and critique of filed DSM plans as compared to best-practice.
- Led Optimal's participation in preparing a Technical Resource Manual for the Mid-Atlantic States (Maryland, Delaware, District of

Columbia), for the Northeast Energy Efficiency Partnerships' Regional EM&V Forum.

- Supported the Maryland Energy Administration in their review of utility energy efficiency plans and the design and implementation of state-delivered efficiency programs.
- Provided recommendations to improve a targeted DSM program being delivered under contract to a major northeast electric utility. Interviewed program staff and provided recommendations based on best practice approaches for similar target markets.
- Prepared two documents for inclusion with EPA's National Action Plan for Energy Efficiency: a guidebook on conducting efficiency potential studies and a handbook describing the funding and administration of clean energy funds.
- Conducted potential analysis for a Canadian Atlantic province, including commercial and institutional sector program design and overall analytical oversight.
- Developed residential potential analysis for the non-transmission alternative to a proposed transmission line upgrade in Vermont.
- Prepared report on efficiency potential in Texas in support of discussions related to proposed expansion of coal-fired generating capacity, for two major NGOs.

Independent Consultant

Cambridge, MA

2005-2006

- For the Massachusetts Renewable Energy Trust SEED Initiative, evaluated renewable energy technology companies' applications for early-stage funding. Responsibilities included leading due diligence efforts on three applications and contributing to several others. Awards recommended for approval totaled \$1.4 million.
- Led an effort to draft a whitepaper on policies to encourage investment in electricity transmission facilities.
- Prepared two articles describing the potential impact of proposed federal legislation to increase domestic oil refining capacity, published in Petroleum Technology Quarterly (1Q 2006) and BCC Research/Energy Magazine (2006).

Industrial Economics, Incorporated

Cambridge, MA

Associate, 1997-2000; Senior Associate, 2001-2004

Managed multi-disciplinary qualitative and quantitative assessments of natural resource damages and environmental policy for clients such as NOAA, USFWS, USEPA, USDOJ, the National Park Service, the State of Indiana, and the United Nations.

URS Consultants, Incorporated

New Orleans & Boston

1991-1995

Prepared water, air, and solid and hazardous waste permit applications for state and federal agencies on behalf of industry clients.

EDUCATION

M.S., Technology & Policy, Massachusetts Institute of Technology, Cambridge, MA, 1997

B.S. with distinction, Civil and Environmental Engineering, Cornell University, Ithaca, NY, 1991

PUBLICATIONS

"From Resource Acquisition to Relationships: How Energy Efficiency Initiatives Can Work Effectively with Large Commercial & Industrial Customers," (with E. Belliveau, J. Kleinman, D. Gaherty, and G. Eaton), *2008 ACEEE Summer Study on Energy Efficiency in Buildings*, Pacific Grove, CA, August 2008.

National Action Plan for Energy Efficiency (2007). *Guide for Conducting Energy Efficiency Potential Studies*. Prepared by Philip Mosenthal and Jeff Loiter, Optimal Energy, Inc. December.

Loiter J.M and V. Norberg-Bohm (1999), "Technology policy and renewable energy: public roles in the development of new technologies," *Energy Policy* Vol.27 no.85-97

Case No. 12-2190-EL-POR, Case No. 12-2191-EL-POR, Case No. 2192-EL-POR

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company For Approval of Their Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2013 through 2015

RESPONSES TO REQUEST

**SC Set 3–
INT-81**

Please identify all documentation detailing all actual results from other jurisdictions, as referenced by Witness Dargie, that support the conclusion that a Commission directive requiring ownership of savings will have a chilling effect on program participation.

Please provide program names, descriptions – including rebate structure and levels-, and the terminology used to express ownership of the savings in these programs from other jurisdictions.

For which of the Companies' Ohio programs is this chilling effect expected to take place?

Response:

Objection. This request seeks the confidential information of third parties who are not parties to this proceeding. This request also mischaracterizes Witness Dargie's testimony as Witness Dargie testified that the Commission directive "can have a chilling effect on customer participation in the EE&PDR programs which impacts the Companies' ability to meet their EE&PDR targets."

Without waiving this objection, the Companies do not have documentation responsive to this request. Further answering, since June 1, 2012, in Pennsylvania, 460 out of 1033 customers or 45% of commercial and industrial customers who participated in those programs opted to retain ownership of the EE resource attributes, representing approximately half of the associated projects in energy savings.

Program names, descriptions and rebate forms, including rebate amounts and terminology related to EE resource attribute ownership for current programs are available on FirstEnergy's *Save Energy* Website:
https://www.firstenergycorp.com/content/customer/save_energy.html

The Companies anticipate that the chilling effect may take place on any program where a customer is required to affirmatively assign ownership of an EE Resource as a condition of program participation.

Case No. 12-2190-EL-POR, Case No. 12-2191-EL-POR, Case No. 2192-EL-POR

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company For Approval of Their Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2013 through 2015

RESPONSES TO REQUEST

SC Set 1–
INT-48

Identify how the companies savings assumptions for linear fluorescent retrofits incorporate recent EISA standards.

Response: The Companies modeled the annual savings of linear fluorescent retrofits according to Section 3 of the Draft Ohio TRM, including establishing baselines in accordance with 2007 EISA standards. As such, the Companies estimated baseline equipment equivalent to 32W T8 for retrofit to higher efficiency linear fluorescent lighting for purposes of modeling.

Case No. 12-2190-EL-POR, Case No. 12-2191-EL-POR, Case No. 2192-EL-POR

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company For Approval of Their Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2013 through 2015.

RESPONSES TO REQUEST

**NRDC Set 3–
INT-31**

Referring to Appendices C-4 of Attachments A, B, and C, do the Companies anticipate providing incentives for Linear Fluorescent Retrofits that change T12 lighting to Standard T8 and T5 lighting?

Response:

Yes, consistent with EM&V protocols as adopted by the Commission, the Companies would incent and claim savings based on as-found conditions for equipment that is replaced as early retirement. This may include T12 lighting to Standard T8 or T5 lighting retrofits.

Case No. 12-2190-EL-POR, Case No. 12-2191-EL-POR, Case No. 2192-EL-POR

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company For Approval of Their Energy Efficiency and Peak Demand Reduction Program Portfolio Plans for 2013 through 2015

RESPONSES TO REQUEST

SC Set 2–
INT-70

The program description for the Demand Response program says that the Companies will now “count demand response resources participating in the PJM market for the applicable delivery year, without the need to contract for these resources separately.” How does FirstEnergy justify counting reductions in peak demand from resources participating in PJM capacity market if FirstEnergy has no involvement in those reductions and provided no incentives or payments for those reductions?

Response:

Pursuant to Ohio Administrative Code Chapter 4901:1-39-05(E)(2), an electric utility may satisfy its peak-demand reduction through a peak demand reduction program that meets the requirements to be counted as a capacity resource under the tariff of a regional transmission organization. The Companies are not aware of a specified requirement that a utility needs to offer an incremental program incentive to the resources participating in such a program. Nonetheless, it should be noted that the Companies and their Ohio customers do participate in capacity auctions in the PJM market and therefore do, indirectly, contribute to the PJM payments/incentives for demand resources participating in the PJM market for the applicable delivery year. Additionally, the Companies believe that this approach will help minimize compliance costs with the statutory mandates, and is thus a more cost-effective approach than requiring the Companies to offer an incremental program incentive to these participating resources. Should the Commission order an incremental program incentive be offered, the Companies’ proposed program budget and design incorporates that flexibility.

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Summary: Testimony of Jeffrey Loiter electronically filed by Mr. Christopher J Allwein on behalf of The Sierra Club