STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF DUKE ENERGY INDIANA, INC. REQUESTING THE INDIANA UTILITY REGULATORY COMMISSION TO APPROVE AN ALTERNATIVE REGULATORY PLAN PURSUANT TO IND. CODE § 8-1-2.5-1, ET SEQ., FOR THE OFFERING OF ENERGY EFFICIENCY CONSERVATION, DEMAND RESPONSE, AND DEMAND-SIDE MANAGEMENT PROGRAMS AND ASSOCIATED RATE TREATMENT INCLUDING INCENTIVES PURSUANT TO A REVISED STANDARD CONTRACT RIDER NO. 66 IN ACCORDANCE WITH IND. CODE §§ 8-1-2.5-1 ET SEQ. AND 8-1-2-42 (a); AUTHORITY TO DEFER PROGRAM COSTS ASSOCIATED WITH ITS ENERGY EFFICIENCY PORTFOLIO OF PROGRAMS; AUTHORITY TO IMPLEMENT NEW AND ENHANCED ENERGY EFFICIENCY PROGRAMS, INCLUDING THE POWERSHARE® PROGRAM IN ITS ENERGY EFFICIENCY PORTFOLIO OF PROGRAMS; AND APPROVAL OF A MODIFICATION OF THE FUEL ADJUSTMENT CLAUSE EARNINGS AND EXPENSE TESTS	)	CAUSE NO. 43374

DIRECT TESTIMONY AND EXHIBITS OF J. RICHARD HORNBY

ON BEHALF OF

CITIZENS ACTION COALITION OF INDIANA. INC

MAY 21, 2008

I. INTRODUCTION / SUMMARY

Q. PLEASE STATE YOUR NAME, EMPLOYER, AND PRESENT POSITION.

A. My name is J. Richard Hornby. I am a Senior Consultant at Synapse Energy Economics, Inc., 22 Pearl Street, Cambridge, MA 02139.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

A. I am testifying on behalf of the Citizens Action Coalition of Indiana. Inc ("CAC").

Q. PLEASE DESCRIBE SYNAPSE ENERGY ECONOMICS.

A. Synapse Energy Economics (Synapse) is a research and consulting firm specializing in energy and environmental issues, including: electric generation, transmission and distribution system reliability, market power, electricity market prices, stranded costs, efficiency, renewable energy, environmental quality, and nuclear power.

Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I am a consultant specializing in planning, market structure, ratemaking, and gas supply/fuel procurement in the electric and gas industries. Over the past twenty years, I have presented expert testimony and provided litigation support on these issues in approximately 100 proceedings in over thirty jurisdictions in the United States and Canada. Over this period, my clients have included staff of public utility commissions, state energy offices, consumer advocate offices and marketers.

Prior to joining Synapse in 2006, I was a Principal with CRA International and, prior to that, Tabors Caramanis & Associates. From 1986 to 1998, I worked with the Tellus Institute (formerly Energy Systems Research Group), initially as Manager of the

Natural Gas Program and subsequently as Director of their Energy Group. Prior to 1986, I was Assistant Deputy Minister of Energy for the Province of Nova Scotia.

I have a Master of Science in Energy Technology and Policy from the Massachusetts Institute of Technology (MIT) and a Bachelor of Industrial Engineering from the Technical University of Nova Scotia, now merged with Dalhousie University. I have attached my current resume to this testimony as Exhibit No. JRH-1.

Q. PLEASE SUMMARIZE YOUR EXPERIENCE WITH ENERGY EFFICIENCY MEASURES AND POLICIES.

A. My experience with energy efficiency measures and policies began over thirty years ago as a project engineer responsible for identifying opportunities for conserving energy in a factory in Nova Scotia. Then, at MIT I had formal coursework in energy technologies and policies, and prepared a thesis analyzing federal policies to promote investments in energy efficiency. Subsequently I spent several years with the government in Nova Scotia, during which time I administered a provincial program to promote energy conservation in the industrial sector and later included energy conservation in all sectors as part of energy plans developed for the province. More recently, over the past twenty years as a regulatory consultant I have helped review and prepare numerous integrated resource plans in the gas and electric industries

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. Duke Energy Indiana, Inc ("Duke Energy Indiana" or the "Company") is requesting approval of an alternative regulatory plan (ARP) for its energy efficiency related revenue requirements. The Company refers to this proposed approach as "save-a-watt". The CAC retained Synapse to review various aspects of the Company's request. The purpose of

my testimony is to describe my analyses of the Company proposal and present my conclusions based upon that review.

Q. ARE YOU PRESENTING ANY EXHIBITS TO SUPPORT YOUR TESTIMONY?

A. Yes. I have prepared eleven exhibits to support my testimony. Confidential Exhibit JRH-2 presents data that the Company has designated as confidential, and is designated as such. My other Exhibits do not present confidential data. The exhibits are as follows:

Exhibit No JRH-1	Resume of J. Richard Hornby
Confidential Exhibit No. JRH-2	Summary Of Save-A-Watt Proposal - Costs And Results
Exhibit No. JRH-3	Projected Reductions In Annual Energy By "Vintage" Year
Exhibit No. JRH-4	Electric Capacity and Energy for an Illustrative Year and Utility
Exhibit No. JRH-5	Relative Impacts on Annual Bill of Reductions In Electric Capacity And Energy
Exhibit No. JRH-6	Policy and Ratemaking Frameworks for Annual Energy Efficiency Expenditures in Various States
Exhibit No. JRH-7	Example 1 - Recovery of revenue requirements related to reduction in peak demand under cost-of-service and save a watt approaches
Exhibit No. JRH-8	Example 2 - Recovery of revenue requirements related to reduction in annual energy from a given measure when avoided costs increase from one vintage year to another
Exhibit No. JRH-9	Example 3 - Recovery of revenue requirements under cost-of-service and save a watt approaches before and after a general rate case
Exhibit No. JRH-10	Utility Share Of Savings Under Cost-Of-Service And Save A Watt Approaches

Exhibit No. JRH-11	Reductions in Annual Energy Achieved by Utility Programs in Various States and Proposed by Duke Energy Companies
Exhibit No. JRH-12	Responses of Duke Energy Indiana, Inc. to Selected Data Requests

Q. WHAT DATA SOURCES DID YOU RELY UPON TO PREPARE YOUR TESTIMONY AND EXHIBITS?

A. I relied primarily on the Direct Testimony, exhibits, and workpapers of the Company witnesses. I also relied upon Company responses to data requests, a number of which I have presented in Exhibit JRH-12. I also reviewed materials that its sister companies have filed on this issue in I also reviewed materials that its sister companies have filed on this issue in South Carolina, North Carolina and Ohio. In addition, I reviewed several Orders issued by the Indiana Utility Regulatory Commission ("Commission"), including Orders issued in the 1990's regarding PSI Energy demand-side management ("DSM") programs; the Order issued May 25, 2005 in Cause No. 42612 the Company's last general rate proceeding, the Order issued April 23, 2008 in Cause 42693 on DSM issues, and the Alternative Utility Regulation statute. Finally I reviewed various reports on efficiency programs and related ratemaking frameworks in other states.

Q. PLEASE SUMMARIZE THE REDUCTIONS THAT THE COMPANY EXPECTS TO ACHIEVE UNDER SAVE-A-WATT AND THE COMPENSATION IT IS REQUESTING FOR THOSE REDUCTIONS.

A. The Company is proposing to offer 15 programs under save-a watt. According to its proposed budgets for these programs, and its projected reductions from them, the Company is placing more emphasis on reducing peak demand than on reducing annual energy use. For example, by the fourth year of its programs Duke is projecting reductions

in peak demand equivalent to 6.4 %[1] of its forecast peak demand for 2011. In contrast, by the fourth year of its programs Duke is projecting reductions in annual energy equivalent to only 0.5 % of its forecast of annual energy sales for 2011.

That reduction by 2011 reflects the cumulative impact of "first year" or incremental reductions equivalent to about **0.14%** per year of annual sales in each of the four years. In contrast, utilities in several other states are achieving annual incremental reductions several times greater than that, i.e., incremental annual reductions each year equal to **1%** of annual sales. The Company's projected reductions in annual energy are extremely low by comparison.

Q. PLEASE DESCRIBE THE COMPENSATION THAT THE COMPANY IS REQUESTING FOR THOSE REDUCTIONS.

A. Under save-a-watt the Company is proposing to be compensated for the value of the reductions achieved through its DSM programs. It is proposing value based revenue requirements equal to 90 percent of its avoided costs of capacity and energy. Under this approach the Company will receive a much higher share of the net dollar savings from these reductions than it would under the types of DSM shared savings mechanisms in place in other states. For example, under save-a-watt the Company would receive between 50% and 75% of these savings, depending on how they are calculated, as compared to approximately 12% under shared savings mechanisms in Ohio and California.

The Company is requesting approval of the save-a-watt ratemaking approach under the Alternative Utility Regulation statute. This value based ratemaking approach

[1] Unless noted otherwise the percentages I use to describe aspects of the Company's filing are derived from data provided by the Company in order to maintain the confidentiality of that source data.

has been characterized as a "…distinct departure from cost recovery and shareholder incentives convention."[2] As indicated by the Company's application in this proceeding, it is a departure from the existing, cost-of-service based ratemaking framework in Indiana.

Q. PLEASE EXPLAIN HOW SAVE-A-WATT DEPARTS FROM TRADITIONAL COST-OF-SERVICE REGULATION.

A. Under Indiana's traditional cost of service framework, the Commission approves revenue requirements that are based upon the Company's cost of providing electricity service and rates to collect those revenue requirements. The Commission makes its decision after all parties have had the opportunity to review the Company's estimates of its cost of service. Under the current framework the Company could request the Commission to approve revenue requirements which would recover the direct costs of its DSM programs, its net lost revenues and a shared savings incentive. In contrast, under save-a-watt the Company is requesting that the Commission approve revenue requirements that would compensate it for reductions in peak demand and in annual energy based upon the "value" of those reductions, which it is proposing to measure as 90 percent of its avoided supply costs.

Q. PLEASE SUMMARIZE YOUR MAJOR CONCLUSIONS AFTER REVIEWING THE COMPANY'S PROPOSAL.

A. The Company's save-a-watt proposal is not in the public interest. The revenue requirements under this approach will not be reasonable. First, the Company could achieve the same reductions in annual energy use at the same or lower revenue requirements under a cost-of-service based framework. Second, the high share of savings

[2] Jensen, Val (ICF International). *Aligning Utility Incentives with Investment in Energy Efficiency*, National Action Plan for Energy Efficiency, November 2007, page ES-10

that the Company is proposing to receive under save-a-watt is inconsistent with the extremely low level of reductions in annual energy, and associated air emissions, that it is proposing to achieve. Third, it does not provide the Company a strong financial incentive to pursue all cost-effective reductions in annual energy.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I have three recommendations.

- First, the Commission should reject the Company's request for an ARP.
- Second, the Commission should direct the Company to seek the input of stakeholders regarding an expansion of the breadth of its energy conservation programs under its existing ratemaking framework, and an increase in the aggregate budget for those programs, and to then submit a filing requesting approval of those programs and budgets. The goal is to have the Company increase its emphasis on energy conservation in a timely manner at a total budget in the order of one percent of retail revenues, which is consistent with the Commission's Phase I Order in Cause No. 42693.
- Third, the Commission should require the Company to file a new application to develop, implement and manage new energy efficiency programs under a ratemaking framework that would, subject to Commission review, set revenue requirements that would recover actual incurred costs, address verified revenue erosion or lost revenues, and provide a shared saving incentive based on performance, i.e. achievement of explicit reduction goals, and subject to a cap as well as to penalties for poor performance.

II. THE SAVE-A-WATT PROPOSAL

Q. PLEASE SUMMARIZE THE PROGRAMS THAT THE COMPANY IS PROPOSING UNDER SAVE-A-WATT.

A. The Company is proposing to offer 15 programs under save-a watt, eight for residential customers and seven for non-residential. In the residential sector six programs are energy conservation and two are demand response. In the non-residential sector six programs are energy conservation and one is demand response. These programs would replace the Company's existing programs.

My review of the Company's proposed budgets for these programs, and its projected reductions from them, indicates that the Company is placing more emphasis on demand response, i.e., reducing peak demand than on energy conservation, i.e., reducing annual energy use. The summary statistics supporting this analysis are presented in Confidential Exhibit JRH-2.

Over the first four years the Company is proposing to spend approximately 57% of its DSM program costs on demand response measures and 43% on energy conservation measures.[3] As summarized earlier, it is projecting to achieve greater reductions in peak demand, as a percent of forecast requirements, than on annual energy requirements, as a percent of forecast requirements. Of most concern is the fact that the Company's projected reductions in annual energy are extremely low by comparison to those being achieved by leading utilities in several other states. Those reductions are also at the lowest end of the range of incremental annual reductions as a percentage of annual sales identified almost two years ago, in the July 2006 National Action Plan for Energy

[3] The Company has projected annual program costs for demand response beyond 2011, but has only projected energy conservation program costs through 2011.

Efficiency (NAPEE)[4], which was co-chaired by Mr. Rogers. That range is from 0.15 percent to 1 percent, with the Executive Summary only reporting 1 percent.

Q. PLEASE SUMMARIZE THE COMPENSATION ASPECT OF SAVE-A-WATT.

A. Save-a-watt is basically a proposal to change the method through which the Company is compensated for its expenditures on demand-side management (DSM). According to Company witness Rogers the Company is proposing to "implement a comprehensive set of cost-effective energy efficiency programs, and to be compensated by receiving through a rider 90% of the avoided fixed and variable supply-side costs" (Rogers Direct Testimony, page 12). The change in compensation for these expenditures is from a cost-of-service approach to a value of service approach.

The Company uses the term "energy efficiency" to refer to both demand response and energy conservation measures and programs. The industry typically refers to these two categories of measures and programs, in aggregate, as demand-side management (DSM). Indiana also defines DSM to include both categories of measures. As discussed below, the two categories of measure produce different types of reductions and have different implications for the Company's planning process. In the balance of my testimony I will refer to either demand response or energy conservation.

Q. PLEASE SUMMARIZE YOUR UNDERSTANDING OF HOW THE COMPANY'S COMPENSATION WILL VARY ACCORDING TO THE VINTAGE OF THE REDUCTIONS.

A. The establishment of revenue requirements by vintage is an important element of save-a-watt. Mr. Farmer discusses how he applies the vintage concept to determination of

[4] NAPEE, July 2006, pages ES-4 and 6-5.

revenue requirements starting at page 7 of his Direct Testimony. I will describe it briefly below, and refer to it in several of the analyses presented in my testimony

My understanding is that the Company will establish revenue requirements for each program to compensate it for the projected reductions from the measures implemented under that program according to the installation year, i.e., the "vintage" of the measures. The Company filing refers to vintage years 1 through 4. For purposes of illustration I assume those vintage years correspond to years 2008 through 2011 respectively.

For example, the Company forecasts that an energy conservation measure installed in 2008 will produce a stream of annual energy reductions over the life of the measure, i.e. 2008 vintage reductions. The Company has estimated the energy costs it would avoid due to those reductions over that lifetime, i.e. 2008 vintage avoided costs. Thus the 2008 vintage revenue requirements equal 90 percent of the 2008 vintage avoided costs, which in turn are a function of the 2008 vintage reductions.

For 2009 the Company will develop a new, updated set of avoided costs. It will then use those updated avoided costs and its 2009 vintage reductions to calculate the 2009 vintage revenue requirements.

Q. HAS THE COMPANY PROVIDED EXPLICIT ESTIMATES OF REDUCTIONS, AVOIDED COSTS AND REVENUE REQUIREMENTS FOR MEASURES INSTALLED IN VINTAGE YEARS 2 THROUGH 4?

A. No, as indicated in response CAC 4.7 presented in Exhibit JHR-12. Dr. Stevie provides projected reductions for energy conservation measures installed in vintage years 1 through 4 in his Exhibit M-1. However, he does not explicitly distinguish the reductions

by vintage. I have plotted what I understand to be the projected annual energy reductions by vintage, for each of vintage years 1 to 4, in Exhibit JRH-3.

Neither Dr. Stevie nor Mr. Farmer provides explicit projected avoided costs or revenue requirements for vintage years 2 through 4.

DEMAND RESPONSE VERSUS ENERGY CONSERVATION

Q. YOUR ANALYSIS OF SAVE-A-WATT MAKES A DISTINCTION BETWEEN DEMAND RESPONSE PROGRAMS AND ENERGY CONSERVATION PROGRAMS. WHAT IS THAT DISTINCTION?

A. Mr. Rogers and other Company witnesses refer to save-a-watt as an "energy efficiency" proposal. However, under save-a-watt the Company is proposing both demand response programs and energy conservation programs. My review makes a distinction between those two categories of measures because energy efficiency/conservation and demand response produce very different results and have very different implications for the Company's future generation mix, environmental impacts and revenue requirements.

The Commission addressed the distinction between these two categories of measures in its Order in Cause 42612. According to the DSM regulations, energy efficiency/conservation means the "…reducing the amount of energy consumed by a customer for a specific end-use." In contrast, demand response measures fall under the category the regulations define as "demand side management". Demand response measures are designed to produce a desired change in a utility's load shape. Throughout my testimony I will use the terms demand response and energy conservation.

Q. WHY IS IT IMPORTANT TO DISTINGUISH BETWEEN DEMAND RESPONSE PROGRAMS AND ENERGY CONSERVATION PROGRAMS?

A. Those two categories need to be distinguished primarily because reductions in total electricity use through energy conservation results in greater reductions in annual supply costs and environmental impacts than reductions in peak demand through demand response. In order to appreciate these differences, it is important to understand the difference between electric capacity and electric energy. I illustrate the difference between those two categories of supply, and of demand response and energy conservation, in three charts presented on pages 1 to 3 of Exhibit JRH-4.

The first chart, on page 1 of Exhibit JRH-4, presents the aggregate electric energy use of customers of a representative utility, by hour, over a year. The shaded area represents aggregate electricity use in each hour plotted from the hour of highest aggregate use, typically referred to as peak demand, to the hour with the lowest aggregate use.

- **Capacity.** In order to ensure reliable service, the utility serving this load will own or control enough generating capacity[5] to serve the peak demand plus a reserve margin, typically in the range of 15%. The utility incurs a fixed cost for this capacity, regardless of whether it ever dispatches it to produce electric energy. Therefore, the "marginal" source of such capacity is often a gas fired combustion turbine (CT), which has a low capital cost and a high operating cost.

[5] Capacity is typically measured in megawatts (MW) at the supply level and kilowatts (kW) at the customer level.

- **Energy.** In order to supply the quantity of electricity customers use in each hour the utility generates and/or purchases electric energy[6]. The utility incurs fixed costs for the capacity from which it generates this energy, and a variable cost for every MWh generated. The cost of this energy represents the largest portion of the cost of electricity supply to most customers, much greater than the capacity cost. In addition, the acquisition and combustion of fuels used to generate this energy produce the vast majority of the environmental impacts associated with annual electricity use.

The second chart, on page 2 of Exhibit JRH-4, illustrates the impact of a 5% reduction in peak demand due to demand response. In this example, demand response measures reduce customer energy use by 5% in relatively few hours per year (e.g., 90 hours). In response to this reduction the utility could reduce the quantity of capacity it holds by 5%, and avoid the associated costs of that capacity. However, that 5% peak demand reduction would not produce a corresponding reduction in a customer's annual bill. Moreover that reduction would result in little or no avoided air emissions because it is not reducing annual electricity generation in a material way.

The third chart, on page 3 of Exhibit JRH-4, illustrates the impact of a 5% reduction in annual energy use. In this example, energy conservation measures reduce customer energy use by 5% in every hour of the year (e.g., 8,760 hours). In response to this reduction the utility could reduce the quantity of capacity it holds by 5%, as well as reduce the quantity of electricity it generates in every hour by 5%. This 5% annual electricity generation reduction would produce a corresponding decrease in a

[6] Energy is typically measured in megawatt hours (MWh) at the supply level and kilowatt-hours (kWh) at the customer level.

participating customer's annual bill. It should also provide a corresponding reduction in air emissions, including avoided carbon dioxide associated with the avoided electric energy.

Q. HAS THE COMPANY PRESENTED THE RELATIVE IMPACTS OF A REPRESENTATIVE REDUCTION IN PEAK DEMAND AND IN ANNUAL ENERGY ON THE ANNUAL BILLS OF AVERGAE CUSTOMERS?

A. No.

Q. CAN YOU ILLUSTRATE THE RELATIVE IMPACTS OF REDUCTIONS IN PEAK DEMAND AND IN ANNUAL ENERGY ON THE ANNUAL BILL OF A REPRESENTATIVE SMALL USAGE CUSTOMER?

A. Yes. I illustrate the impact of 5% reductions in peak demand and annual energy on a small usage customer, such as a small commercial customer of PSI Energy. For this illustration I consider two such customers based upon usage and typical bill data drawn from the Winter 2006 version of *Typical Bills and Average Rates Report* published by the Edison Electric

The two customers in this example each have a peak demand of 3 kw. Customer A has annual usage of 4,500 kWh, an annual bill of $504 and a load factor[7] of 17, categorized as low. Customer B has an annual usage of 12,000 kWh, an annual bill of $1,104 and a load factor of 46, categorized as mid. For avoided capacity and energy costs I use illustrative values that are somewhat higher than those used by the Company in order to keep its estimates confidential and to err on the conservative side when calculating savings in annual bills.

The inputs and results are presented in Exhibit JRH-5. First, I calculate the impact on annual bills of a 5% reduction in peak demand in 1% of the hours. The savings were approximately 2.6% and 1.2% for customers A and B respectively. Next, I calculate the impact on annual bills of a 5% reduction in use in every hour of the year, i.e. a 5 % reduction in annual energy use. The impacts on annual bills were much larger, with savings of approximately 6% and 5.5% for customers A and B respectively.

These illustrative results indicate that a 5% reduction in peak demand does not provide a corresponding reduction in the annual bill of a representative small customer, while a 5% reduction in annual energy does produce a corresponding decrease in a participating customer's annual bill.

Q. HAS THE COMPANY PRESENTED THE RELATIVE IMPACTS OF A REPRESENTATIVE REDUCTION IN PEAK DEMAND AND IN ANNUAL ENERGY ON THE ENVIRONMENTAL IMPACTS ASSOCIATED WITH ENERGY USE?

A. No. See Response CAC 4.11 in Exhibit JRH-12.

RATEMAKING UNDER SAVE-A-WATT APPROACH VERSUS A COST-OF-SERVICE FRAMEWORK

Q. PLEASE SUMMARIZE HOW THE SAVE-A-WATT PROPOSAL DIFFERS FROM THE EXISTING APPROACH TO RATEMAKING IN INDIANA.

[7] Load factor is a ratio that measures relative use of capacity. It is equal to annual energy use divided by (peak demand times 8,760).

A. Save-a-watt differs from the existing approach to ratemaking in Indiana, and traditional utility rate regulation in general, by setting revenue requirements based upon value of service rather than cost of service. Regulated utilities typically have an obligation to provide reliable service at reasonable rates. Under traditional rate regulation, the current approach in Indiana, revenue requirements are generally considered to be "reasonable" if they are based upon the utility's cost of providing the service.

Under this current ratemaking framework the Company files for changes in rates to recover its proposed revenue requirements, which in turn are based upon its estimated cost of service including an allowance for earnings (i.e., a return in rate base). All parties then review the Company proposal in detail, including all the underlying estimates of costs. Finally, the Commission approves a set of rates that reflect its adjustments to the Company's proposed revenue requirements based upon its review of the evidence presented by the Company and all parties.

The Company's proposed save-a-watt approach is a departure from this existing ratemaking framework. The Company is requesting that the Commission approve revenue requirements, and rates to collect those revenue requirements, that are based upon the "value" of the reductions in peak demand and annual energy.

Q. PLEASE SUMMARIZE THE COST OF SERVICE BASED RATEMAKING FRAMEWORK THAT IS AVAILABLE TO THE COMPANY IN INDIANA.

A. Under the existing ratemaking framework the Company has the opportunity to request compensation for capacity and energy reductions achieved through DSM. Under this framework the Company could recover three major categories of costs and incentives associated with those reductions. The three components are:

- **Program costs**. Recovery of direct costs of programs, in an explicit and transparent fashion. These program costs have to be verified;
- **Lost revenues**. These are revenues that the Company does not collect, i.e., "loses" as a result of reductions in annual energy under its DSM programs, which are not offset by avoided costs. They are revenues the Company was collecting to recover its fixed costs. (Lost revenues are eliminated when the Company files its next general rate case and resets its rates to recover its fixed costs from the new lower level of test year billing determinants). Like program costs, these lost revenues would have to be verified.
- **A financial incentive**. This could be a share of the savings resulting from verified reductions achieved through DSM. This incentive should be based on the performance of the utility in achieving an explicit reduction goal, should be subject to a cap, and could include penalties for failure to achieve a threshold level of performance.

Q. IS THIS COST OF SERVICE BASED RATEMAKING FRAMEWORK CONSISTENT WITH THE RATEMAKING FRAMEWORKS FOR ENERGY EFFICIENCY EXPENDITURES IN OTHER STATES?

A. Yes. The ratemaking framework for DSM programs in place in Indiana has all of the components generally considered as necessary to align the utility's financial interest with investments in reductions in annual electricity use. The only missing component is an explicit policy target for such reductions, which is sometimes expressed as a percentage of annual energy requirements to be met through reductions from energy conservation.

The cost-based ratemaking frameworks in effect in several other states are presented in Exhibit JRH-6. This exhibit includes the ratemaking frameworks in the states that Company witness Rose discusses in his Direct Testimony.

Q. ARE ANY DUKE COMPANIES OPERATING UNDER SUCH A RATEMAKING FRAMEWORK?

A. Yes. Duke Energy Ohio is operating under this type of ratemaking framework, as noted in CAC 4.9 presented in Exhibit JHR-12. Under this framework Duke Energy Ohio has the opportunity to recover its program costs, net lost revenues and a maximum of 10% of the remaining net savings if it meets 100 percent of its targeted goal[8]. According to its application Duke Energy Ohio was projecting reductions in annual energy equivalent to approximately 0.4 % of its forecast of annual energy sales for 2006, as noted in Exhibit JHR-10.

Q. DOES DUKE ENERGY INDIANA HAVE EXPERIENCE WITH THIS TYPE OF RATEMAKING FRAMEWORK?

A. Yes. PSI Energy, a predecessor company to Duke Energy Indiana, operated under this type of ratemaking framework for several years in the earl 1990's. More recently, in 2004 PSI Energy filed an application for exactly this type of ratemaking framework in Cause No. 42612. In its May 25, 2005 Order in that proceeding, at page 22, the Commission stated that "…utilities should not be financially discouraged from pursuing demand side management options and, under appropriate circumstances, financial incentives may be essential." However, the Commission went on to state that "…the burden is on the utility to demonstrate the validity and reasonableness of the proposed lost revenues and proposed shared savings. In this Cause, the current proposal fails."

Q. PLEASE DESCRIBE THE STANDARD THAT THE COMPANY MUST MEET IN ORDER FOR SAVE-A-WATT TO BE APPROVED.

A. Counsel advises me that the Commission must find the Company proposal to be "in the public interest" in order to approve it under the Alternative Utility Regulation statute, and that the Company has the burden of proving that its proposed departure from cost-based ratemaking is in the public interest.

Q. IS SIMULATING THE COMPENSATION FOR DSM PROGRAM REDUCTIONS UNDER A COST-BASED RATEMAKING FRAMEWORK AND UNDER SAVE-A-WATT ONE APPROACH TO MEETING THIS BURDEN OF PROOF.

A. Yes. One of the lessons regarding approaches to this issue stated in the NAPEE report by ICF is:

> *Test prospective policies. Complex mechanisms that have many moving parts cannot easily be understood unless the performance of the mechanism is simulated under a wide range of conditions. This is particularly true of mechanisms that rely on projections of avoided costs, prices or program impacts. Simulation of impacts using financial models and/or use of targeted pilots can be effective tools to test prospective policies.*[9]

Q. HAS THE COMPANY PROVIDED ANY SIMULATIONS OR QUANTITATIVE ANALYSES THAT DEMONSTRATE SAVE-A-WATT IT WILL ACHIEVE THE SAME OR GREATER REDUCTIONS IN PEAK DEMAND AND ENERGY AT

[8] Public Utilities Commission of Ohio, Docket 06-91-EL-UNC et al., Order issued July 11, 2007.
[9] Jensen, Val (ICF International). *Aligning Utility Incentives with Investment in Energy Efficiency,* National Action Plan for Energy Efficiency, November 2007, page ES-11

REVENUE REQUIREMENTS EQUAL TO OR LESS THAN UNDER A COST-OF-SERVICE FRAMEWORK?

A. No. The Company has not prepared any quantitative analyses comparing revenue requirements under save-a-watt and under a cost-of-service based framework for a given quantity of reductions in peak demand and energy. See responses to CAC data requests 3.7, 4.10, 4.13 and 4.15 in Exhibit JRH-12.

Q. HAVE YOU PREPARED ANY QUANTITATIVE ANALYSES COMPARING REVENUE REQUIREMENTS UNDER SAVE-A-WATT TO REVENUE REQUIREMENTS UNDER A COST-OF-SERVICE RATEMAKING FRAMEWORK?

A. Yes. I have prepared comparisons of the revenue requirements under the two approaches for two types of reductions under DSM programs as well as for a general rate case scenario. The results of these analyses indicate that, for the same types and quantity of reductions evaluated, the revenue requirements under the save-a-watt proposal would be higher than revenue requirements under the cost of service based ratemaking framework in place in Indiana.

The Company will be able to use the revenues that it collects under save-a-watt as compensation for the same three components it would be funding under a cost-based ratemaking framework. Those three components are DSM program costs, lost revenues and a share of the net savings.

Thus, one can use a common set of illustrative assumptions regarding avoided costs and each of those three components to calculate the revenue requirements under a cost-of-service approach and under save-a-watt. For the cost of service ratemaking

approach in my examples I assume a utility incentive equal to 10% of net savings, where net savings equals avoided costs minus DSM program costs. This incentive is comparable to the shared saving incentive under which Duke Energy Ohio is operating as well as the shared saving incentive recently approved in California.

Q. RELATIVE TO A COST-BASED RATEMAKING FRAMEWORK, DOES SAVE-A-WATT PROVIDE A STRONGER FINANCIAL INCENTIVE TO PURSUE ALL REDUCTIONS IN ANNUAL ENERGY THAT ARE AVAILABLE AT LESS THAN AVOIDED COST?

A. No. Under a cost-based ratemaking framework, recovery of lost revenue is independent of DSM program costs. In contrast, under save-a-watt, recovery of lost revenue is dependent of DSM program costs because the funding for both comes from the 90 percent of avoided costs. Therefore, under save-a-watt, every dollar spent on DSM program costs is a dollar that is not available to fund recovery of lost revenues. Thus, for the subset of reductions whose program costs are close to their avoided costs, save-a-watt does not provide a stronger financial incentive than a cost-of-service ratemaking framework.

The Company may maintain that the weak incentive of save-a-watt with respect to reductions whose program costs are close to avoided costs, is offset by the strong incentive that save-a-watt provides in terms of the large share of savings the Company could receive. However, the Company has not provided a quantitative analysis to support that assertion.

Q. ARE REVENUE REQUIREMENTS UNDER SAVE-A-WATT LIKELY TO BE HIGHER THAN REVENUE REQUIREMENTS UNDER A COST-OF-SERVICE RATEMAKING FRAMEWORK FOR VARIOUS TYPES OF REDUCTIONS?

A. Yes. Revenue requirements are likely to be higher under save-a-watt for various types of reductions because of the absence of a connection between the revenue requirements that the Company would collect and the Company's actual program costs and its actual net lost revenues as well as the absence of a cap on its share of net savings. Revenue requirements under save-a-watt would or could be higher than revenue requirements under a cost of service framework for reductions in peak demand where there are no lost revenues and for reductions in annual energy for higher cost measures when avoided energy costs increase over time. The revenue requirements could also be higher under save-a-watt after the Company's base rates are re-set in a general rate case.

Q. PLEASE EXPLAIN HOW SAVE-A-WATT PRODUCES REVENUE REQUIREMENTS THAT ARE HIGHER THAN A COST-OF-SERVICE RATEMAKING FRAMEWORK FOR REDUCTIONS IN PEAK DEMAND WHERE THERE ARE NO LOST REVENUES.

A. Revenue requirements for reductions from a measure under save-a-watt are the same regardless of whether the reduction actually results in lost revenues for the utility. In contrast, revenue requirements for reductions from measure under cost of service are lower if that reduction does not cause lost revenues. I illustrate the difference in revenue requirements between these two approaches for this situation in using a bar chart in Exhibit JRH-7.

- The first bar in that chart is the avoided cost.

- The second bar illustrates the distribution of the savings between the utility and customers under a cost of service approach. The utility recovers its actual direct program costs (bottom, solid segment of bar), no net lost revenues since there are none, and a 10% share of the net savings (middle, white and black diamond segment of bar). Customers receive the majority of the savings (top, left to right diagonal cross-hatch segment of bar).
- The third bar illustrates the distribution of the savings between the utility and customers the save-a-watt approach. The utility receives 90% of avoided costs (bottom, solid segment of bar) and customers receive 10% (top, left to right diagonal cross-hatch segment of bar).

Q. PLEASE EXPLAIN HOW SAVE-A-WATT COULD PRODUCE REVENUE REQUIREMENTS THAT ARE HIGHER THAN A COST-OF-SERVICE RATEMAKING FRAMEWORK FOR REDUCTIONS IN ANNUAL ENERGY FOR HIGHER COST MEASURES AS AVOIDED COSTS INCREASE OVER TIME.

A. There may be a sub-set of reductions in annual energy for which revenue requirements under save-a-watt will be similar to revenue requirements under cost of service. However for that sub-set of reductions, there is a definite potential for save-a-watt to produce higher revenue requirements over time, as avoided energy costs increase. Again I illustrate the difference in revenue requirements between these two approaches for this situation using bar charts on in Exhibit JRH-8.

The first three bars provide illustrative costs, savings and revenue requirements for measure "X" for vintage year 1. The first bar is the avoided energy cost for vintage

year 1. The second bar illustrates the distribution of the savings between the utility and customers under a cost of service approach. The utility vintage year 1 compensation is bottom, solid segment of bar and customer portion is the top, left to right diagonal cross-hatch segment of bar. The third bar illustrates the distribution of the savings between the utility and customers the save-a-watt approach. The utility vintage year 1 is 90% of avoided costs (bottom, solid segment of bar) and customers receive 10% (top, left to right diagonal cross-hatch segment of bar).

The next three bars provide illustrative costs, savings and revenue requirements for measure "X" for vintage year 2.

- The fourth bar is the avoided cost for vintage year 2 which reflects an assumed 10% increase over vintage year 1 avoided costs (black and white diamond segment).
- The fifth bar is the vintage year 2 distribution of savings under a cost of service approach. It illustrates that, under a cost of service approach, almost all of the 10% increase in avoided cost goes to customers as additional savings (top, vertical cross-hatch segment of bar). This example assumes the vintage year 2 program cost and lost revenue for this reduction is the same as in vintage year 1[10].
- The sixth bar illustrates that, under save a watt, only 10% of the increase in avoided energy costs flows to customers. Ninety percent of the increase in avoided costs flows to the utility as higher earnings.

[10] The Company has provided no evidence to indicate that direct program costs would increase in the same proportion as increases in avoided costs. Response CAC 4.6 in Exhibit JRH-12.

Q. IS IT LIKELY THAT AVOIDED ENERGY COSTS FOR VINTAGE YEARS 2, 3 AND 4 WILL BE HIGHER THAN THE VINTAGE YEAR 1 AVOIDED ENERGY COSTS THE COMPANY HAS USED IN ITS FILING?

A. Yes. My understanding is that every year the Company will file updated estimates of avoided energy costs for the upcoming vintage year. For example it will file updated avoided energy costs for vintage year 2. These updated estimates of avoided energy costs for vintage year 2 and beyond are likely to be higher than vintage year 1 avoided costs. The increases in the avoided energy costs for those future vintage years will be driven by increases in prices for coal and natural gas. They will also increase when regulations on carbon emissions are eventual implemented, Response CAC 3.13 in Exhibit JRH-12.

Q. PLEASE EXPLAIN HOW SAVE-A-WATT COULD PRODUCE REVENUE REQUIREMENTS THAT ARE HIGHER THAN A COST-OF-SERVICE RATEMAKING FRAMEWORK AFTER THE COMPANY'S BASE RATES ARE RE-SET AS A RESULT OF A GENERAL RATE CASE.

A. In a general rate case the Company resets its base rates to reflect the annual kWh sales in its "test year". Those new base rates therefore are set to recover the Company's revenue requirements from the new, lower level of annual sales due to reductions that have occurred since the last rate case. In effect, recovery of "lost revenues" is shifted from the DSM rider into the new base rates.

Under the "vintage" aspect of save-a-watt, once revenue requirements for a particular vintage year are set, the rates set to collect those revenue requirements remain in place for the life of those vintage reductions. As a result, it appears that save-a-watt rates for vintage years prior to the base rate would be unaffected by the base rate case,

and would effectively continue to collect "net lost revenues". In contrast, DSM rates under a cost of service approach case would be reduced after the general rate case to reflect the elimination of prior lost revenues.

I illustrate the potential for rates under save-a-watt to be higher than rates under cost of service after a general rate case in Exhibit JRH-9. In this example I assume the utility is collecting essentially the same revenue requirements under both save-a-watt and a cost-of-service ratemaking framework for reductions in vintage years 2008, 2009 and 2010. I also assume the Company completes a general rate case in 2010 that sets new base rates effective 2011. The new base rates would be higher to reflect the reduction in annual kWh due to the reductions in annual energy from the energy conservation measures implemented in 2008, 2009 and 2010. As a result, the Company would no longer have "net lost revenues" from the reductions due to the measures implemented in years 2008 through 2010.

The chart in Exhibit JRH-9 shows the rates that the utility would collect year by under both save-a-watt (solid) and cost-of-service (black and white diamonds) over the lives of the measures. The rates under save-a-watt are unaffected by the base rate case. The rates under a cost-of-service approach decline from 2011 onward to reflect the new base rates from the general rate case in 2010.

Q. DO ANY OF THE COMPANY WITNESSES DISCUSS HOW RATES UNDER SAVE-A-WATT WILL BE AFFECTED BY NEW BASE RATES FROM A GENERAL RATE CASE?

A. No. In their pre-filed Direct testimony none of the Company witnesses discuss how rates under save-a-watt will be affected by new base rates from a general rate case. In response

to CAC 4.22 presented in Exhibit JRH-12, the Company indicates that it considers this possibility to be hypothetical and states that it cannot speculate on how the two ratemaking mechanisms would interact.

SHARING OF SAVINGS

Q. HAVE YOU REVIEWED THE SHARING OF SAVINGS UNDER SAVE-A-WATT BETWEEN THE CUSTOMER AND THE COMPANY?

A. Yes. I have analyzed the sharing of savings between customers and the Company under save-a-watt based on the data provided in revised Exhibit M-1. That analysis indicates that, for the mix and quantities of reductions the Company is projecting, it would receive a higher share of savings under save-a-watt than under the shared savings mechanisms in other states, Ohio and California for example. That analysis also indicates that, according to the Company's assumptions regarding avoided costs, program costs and lost revenues, it is not receiving any share of savings for reductions in annual energy. Its portion of savings result the compensation it receives for reductions in peak demand. Those results highlight the importance of verifying the projections of lost revenues. They also confirm that save-a-watt does not provide as strong an incentive for reductions in annual energy as a cost-of-service ratemaking framework.

Under cost-based-ratemaking frameworks financial incentives to utilities tend to be based upon an estimate as to what is "reasonable." One approach is to set the incentive at a percentage of direct program cost, e.g. 10%. Another approach is to set the incentive as a percentage of the net savings after recovery of direct program costs and net lost revenue. California goes even further by establishing an incentive mechanism

"curve," with incentives for meeting or exceeding explicit performance targets and penalties for failing to meet a minimum level of performance.[11]

In both California and Ohio, the shared savings incentive mechanism has several components. Those components include an explicit target, a minimum threshold of performance relative to that target, e.g. 65%, before the utility receives any share of savings, and a cap on the maximum share expressed as a percentage, or a percentage and an absolute amount. The maximum percentages that the utility can earn are in the range of 10% to 12%.

Under save-a-watt, the Company's share of net savings, after it recovers net lost revenues, would be approximately 48%. Those levels of sharing, and the sharing curves for California and Ohio, are presented in Exhibit JRH-10.

REDUCTIONS IN ANNUAL ENERGY AND ENVIRONMENTAL IMPACTS

Q. HAS THE COMPANY PROVIDED ANY QUANTITATIVE ANALYSES, OR GUARANTEES, THAT UNDER SAVE-A-WATT IT WILL ACHIEVE HIGHER REDUCTIONS IN ANNUAL ENERGY THAN UNDER A COST-OF-SERVICE BASED FRAMEWORK?

A. No. According to Company witness Rogers, (Direct Testimony, page 3), save-a-watt is predicated on an aspiration to help create the most energy-efficient economy in the world. In fact, Company witness Rogers admits that the save-a-watt aspiration is just that, an aspiration. The Company has set no specific targets or metrics to meet goals of being the

[11] Public Utilities Commission of the State of California, Docket 06-04-010, Interim Opinion, September 25, 2007.

most energy efficient service territory in the United States (Response to CAC 3.1 in Exhibit JRH-12).

Moreover, the reductions in annual energy use that the Company is actually projecting to achieve under save-a-watt falls far short of that lofty goal. As noted earlier, by the fourth year of its programs Duke is projecting reductions in annual energy equivalent to only 0.5 % of its forecast of annual energy sales for 2011. That reduction by 2011 reflects the cumulative impact of "first year" or incremental reductions equivalent to about **0.14%** per year of annual sales in each of the four years. In contrast, utilities in several other states are achieving annual incremental reductions several times greater than that, i.e., incremental annual reductions each year equal to **1%** of annual sales. Those reductions being achieved in several other states are presented in Exhibit JRH-11.

Q. CAN THE COMPANY JUSTIFY ITS LOWER LEVELS OF PROJECTED SAVINGS ON THE GROUNDS THAT ITS AVOIDED ENERGY COSTS ARE SIGNIFICANTLY LOWER THAN THOSE OF THE UTILITIES IN THESE OTHER STATES?

A. No. The Company is facing the same factors driving increases in avoided energy costs, i.e. increases in prices of coal and natural gas as well as impending national regulation on carbon emissions. Second, the Company is projecting its annual energy requirements to increase and, in the absence of reductions in annual, is facing the same supply-side choices as utilities in other states in order to meet that load growth. Those choices are new utility scale renewable capacity, new gas-fired combined cycle gas turbines, new coal and new nuclear. The capital costs of new fossil and nuclear capacity units are much

higher than in the past and are increasing rapidly. Thus, the Company is facing the same long-term costs of capacity and energy as utilities in other states.

Q. HAS THE COMPANY PROVIDED ANY QUANTITATIVE ANALYSES, OR GUARANTEES, THAT UNDER SAVE-A-WATT IT WILL ACHIEVE HIGHER ENVIRONMENTAL BENEFITS THAN UNDER A COST OF SERVICE BASED RATEMAKING FRAMEWORK?

A. No. According to Company witness Rogers, (Direct Testimony, page 3), save-a-watt is predicated on an aspiration to help "de carbonize" the economy. However, Mr. Rogers again admits that the save-a-watt aspiration regarding carbon is just that, an aspiration. The Company has set no specific targets or metrics to meet goals of being the lowest carbon service territory in the United States (Response CAC 3.2 in Exhibit___ JRH-12).

III. THE SAVE-A-WATT APPROACH IS NOT IN THE PUBLIC INTEREST

Q. PLEASE DESCRIBE THE STANDARD THAT THE COMPANY PROPOSAL MUST MEET IN ORDER TO BE APPROVED, AND THE CRITERIA THAT THE COMMISSION MUST CONSIDER WHEN APPLYING THAT STANDARD.

A. Counsel advises me that the Commission must find the Company proposal to be "in the public interest" in order to approve it under the Alternative Utility Regulation statute, and that the Company has the burden of proving that its proposed departure is in the public interest. In determining whether a proposal is in the public interest, the Commission must consider the following four explicit criteria.

(1) Whether technological or operating conditions, competitive forces, or the extent of regulation by other state or federal regulatory bodies render the exercise, in whole or in part, of jurisdiction by the commission unnecessary or wasteful.

(2) Whether the commission's declining to exercise, in whole or in part, its jurisdiction will be beneficial for the energy utility, the energy utility's customers, or the state.

(3) Whether the commission's declining to exercise, in whole or in part, its jurisdiction will promote energy utility efficiency.

(4) Whether the exercise of commission jurisdiction inhibits an energy utility from competing with other providers of functionally similar energy services or equipment.

Q. WHERE DOES THE COMPANY SUMMARIZE ITS RATIONALE FOR AN ARP?

A. Mr. Stanley summarizes the Company's rationale for an ARP on page 10 in his Direct Testimony, and states that additional detail can be found in Company Exhibit B-1. Other Company witnesses discuss various aspects of the rationale, either explicitly or implicitly. Mr. Stanley does not present the potential advantages of save-a-watt relative to a cost-of-service ratemaking framework that recovers direct program costs, verified lost revenues and a reasonable share of savings.

Q. PLEASE COMMENT ON THE COMPANY'S RESPONSE TO THE FIRST CRITERION REQUIRED UNDER THE ALTERNATIVE UTILITITY REGULATION STATUTE.

A. The first criterion is "Whether technological or operating conditions, competitive forces, or the extent of regulation by other state or federal regulatory bodies render the exercise, in whole or in part, of jurisdiction by the commission unnecessary or wasteful*."* In response Mr. Stanley states that "…technological improvements have occurred that will allow more sophisticated energy efficiency programs as well as more accurate estimating of customer's usage as proposed in our measurement and verification plan…"

The Company response does not justify a change in ratemaking approach. The Company has the ability to use these technological improvements to offer more sophisticated energy efficiency programs and to estimate usage more accurately under a cost-of-service ratemaking framework.

Q. PLEASE COMMENT ON THE COMPANY'S RESPONSE TO THE SECOND CRITERION REQUIRED UNDER THE ALTERNATIVE UTILITITY REGULATION STATUTE.

A. The second criterion is "Whether the commission's declining to exercise, in whole or in part, its jurisdiction will be beneficial for the energy utility, the energy utility's customers, or the state." In response Mr. Stanley states that "…the save-a-watt approach will provide the Company, its customers and the State with many benefits, including an incentive for the Company to pursue energy efficiency by treating energy efficiency on par with supply side resources, environmental benefits, lower overall customer bills compared to the bills from generation resources, more options for customers to manage their bills, and the creation of new jobs in the energy efficiency sector."

First, the Company has not provided specific analyses or quantification to verify or support the existence or magnitude of any of these purported benefits. No support is

provided in Mr. Stanley's Direct Testimony, in Company Exhibit B-1 or in Company responses to CAC Data Requests 3-7 and 3-8. (Exhibit JRH-12)

Second, all of the benefits to which Mr. Stanley alludes appear to derive from, and thus hinge upon, the incentive that save-a-watt provides the Company to pursue reductions in annual energy. As I have demonstrated in the preceding sections of my testimony, the Company could achieve the same, if not superior, reductions in annual energy use and associated environmental benefits at revenue requirements based upon cost of service.

Q. PLEASE COMMENT ON THE COMPANY'S RESPONSE TO THE THIRD CRITERION REQUIRED UNDER THE ALTERNATIVE UTILITITY REGULATION STATUTE.

A. The third criterion is "Whether the commission's declining to exercise, in whole or in part, its jurisdiction will promote energy utility efficiency." In response Mr. Stanley states that "…our plan will promote energy utility efficiency because it will encourage the Company to invest in all cost-effective energy efficiency in its service territory".

This is essentially the same as Mr. Stanley's response to the second criterion. Again, neither his Direct Testimony nor Company Exhibit B-1 provides supporting analyses or quantification. CAC Data Requests 3-7 and 3-8 (Exhibit JRH-12) have requested any such materials. As with the second criterion, the Company could achieve similar, if not greater, levels of energy efficiency/conservation under the cost-of-service ratemaking framework available to it in Indiana.

Q. WHAT IS YOUR CONCLUSION AS TO WHETHER SAVE-A-WATT IS IN THE PUBLIC INTEREST?

A. My conclusion is that save-a-watt is not in the public interest. First, the Company has not provided a comparative analysis that demonstrates save-a-watt will be superior to a cost-of-service ratemaking framework in terms of achieving significantly greater reductions in annual energy use and environmental impacts. Second, my comparative analyses indicate that save-a-watt provides the Company a stronger financial incentive to pursue reductions in peak demand, but not as strong an incentive to pursue all cost-effective reductions in annual energy.

Q. WHAT ARE YOUR RECOMMENDATIONS BASED UPON THIS CONCLUSION

A. Based upon this conclusion, and my analyses, I have three recommendations.

- First, the Commission should reject the Company's request for an ARP.
- Second, the Commission should direct the Company to seek the input of stakeholders regarding an expansion of the breadth of its energy conservation programs under its existing ratemaking framework, and an increase in the aggregate budget for those programs, and to then submit a filing requesting approval of those programs and budgets. The goal is to have the Company increase its emphasis on energy conservation in a timely manner at a total budget in the order of one percent of retail revenues, which is consistent with the Commission's Phase I Order in Cause No. 42693.
- Third, the Commission should require the Company to file a new application to develop, implement and manage new energy efficiency programs under a ratemaking framework that would, subject to Commission review, set revenue requirements that would recover actual incurred costs, address verified revenue

erosion or lost revenues, and provide a shared saving incentive based on performance, i.e. achievement of explicit reduction goals, and subject to a cap as well as to penalties for poor performance.

Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?

A. Yes.

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics, Inc., Cambridge, MA. *Senior Consultant,* 2006 to present.
Analysis and expert testimony regarding planning, market structure, ratemaking and contracting issues in the electricity and natural gas industries.

Charles River Associates (formerly Tabors Caramanis & Associates), Cambridge, MA.
Principal, 2004-2006.
Senior Consultant, 1998-2004.
Provided expert testimony and litigation support in several energy contract price arbitration proceedings, as well as in electric and gas utility ratemaking proceedings in Ontario, New York, Nova Scotia and New Jersey. Managed a major productivity improvement and planning project for two electric distribution companies within the Abu Dhabi Water and Electricity Authority. Analyzed a range of market structure and contracting issues in wholesale electricity markets.

Tellus Institute, Boston, MA.
Vice President and Director of Energy Group, 1997–1998.
Presented expert testimony on rates for unbundled retail services in restructured retail markets and analyzed the options for purchasing electricity and gas in those markets.
Manager of Natural Gas Program, 1986–1997.
Prepared testimony and reports on a range of gas industry issues including market structure, unbundled services, ratemaking, strategic planning, market analyses, and supply planning.

Nova Scotia Department of Mines and Energy, Halifax, Canada; 1981–1986
Member, Canada-Nova Scotia Offshore Oil and Gas Board, 1983–1986
Member of a federal-provincial board responsible for regulating petroleum industry exploration and development activity offshore Nova Scotia.

Assistant Deputy Minister of Energy 1983–1986
Responsible for analysis and implementation of provincial energy policies and programs, as well as for Energy Division budget and staff. Directed preparation of comprehensive energy plan emphasizing energy efficiency and use of provincial energy resources. Senior technical advisor on provincial team responsible for negotiating and implementing a federal/provincial fiscal, regulatory, and legislative regime to govern offshore oil and gas. Directed analyses of proposals to develop and market natural gas, coal, and tidal power resources. Also served as Director of Energy Resources (1982-1983) and Assistant to the Deputy Minister (1981-1982.

Nova Scotia Research Foundation, Dartmouth, Canada, Consultant, 1978–1981
Edited Nova Scotia's first comprehensive energy plan. Administered government-funded industrial energy conservation program—audits, feasibility studies, and investment grants.

Canadian Keyes Fibre, Hantsport, Canada, Project Engineer, 1975–1977

Imperial Group Limited, Bristol, England, Management Consultant, 1973–1975

EDUCATION

M.S., Technology and Policy (Energy), Massachusetts Institute of Technology, 1979.
Thesis: "An Assessment of Government Policies to Promote Investments in Energy Conserving Technologies"

B.Eng. Industrial Engineering (with Distinction), Dalhousie University, Canada, 1973

EXPERT TESTIMONY AND LITIGATION SUPPORT (1987 to present)

Provided expert testimony and/or litigation support on planning, market structure, ratemaking and gas supply/fuel procurement in the electric and gas industries in approximately 100 proceedings in over thirty jurisdictions in the United States and Canada. List of proceedings available upon request.

Redacted

Summary of Save-a-Watt Proposal - Costs and Results

		Demand Response		Energy Conservation		Total	
		absolute	%	absolute	%	absolute	%
		a	b	c	d	e	f
1	**DSM Program Costs**						
2	Direct Cost in Years 1-4 (Present Value$) *2*		57%		43%		100%
3	**Peak Demand and Energy Savings**						
4	**Peak Demand (kW)**						
5	Peak Demand Forecast for 2011 (kW) *1*						
6	First Year Peak Demand Savings from Year 4 Efforts (kW) *3*						6.1%
7							
8	Annual Peak Demand Savings in Year 4 from Efforts in Years 1-4 (kW) *3*						6.6%
9							
10	**Energy (kWh)**						
11	Energy Forecast for 2011 (kWh) *1*						
12	First Year Energy Savings from Year 4 Efforts (kW) *3*						0.14%
13							
14	Annual Energy Savings in Year 4 from Efforts in Years 1-4 (kW) *3*						0.50%
15							
16	**Average Cost of Saved Capacity and Energy**						
	Saved Capacity in Years 1-4 (kW) *4*		77%		23%		
17	Cost of Saved Capacity (Present Value$/kW-yr)						
	Lifetime Saved Energy (kWh) *5*		0%		100%		
18	Cost of Lifetime Saved Energy (Present Value$/kWh)						
19	**Value of Peak Demand and Energy Savings**						
20	2008 Vintage Avoided Capacity Cost (Present Value$/kW-yr)						
21	2008 Vintage Avoided Energy Cost (Present Value$/kWh)						
22	**Shared Savings Value (Excludes Recovery of Lost Revenue)**						
23	Customer Value = 10% of Avoided Cost (Present Value$)		24%		17%		21%
24	Company Value = 90% of Avoided Cost - Recovered Program Costs (Present Value$)		76%		83%		79%
25	Total Value (Present Value$)		100%		100%		100%
26	**Shared Savings Value (After Recovery of Lost Revenue)**						
27	Customer Value = 10% of Avoided Cost (Present Value$)						52%
28	Company Value = 90% of Avoided Cost - Recovered Program Costs - Recovered Lost Margins (Present Value$)						48%
29	Total Value (Present Value$)						100%

Notes:

In general, references to 'Year 1' are assumed to be 2008 and references to 'Year 4' are assumed to be 2011

In general, Demand response costs and savings include the Advanced Power Manager pilot program

1 Peak demand and energy forecasts do not take into account savings from save-a-watt

2 Direct program cost excludes recovery of net lost margin and/or financial incentive to utility

3 "First year" reductions in year 4 are incremental reductions resulting from measures implemented in year 4

Annual reductions in year 4 include incremental reductions resulting from measures implemented in year 4 as well as continued reductions in year 4 resulting from measures implemented in previous years

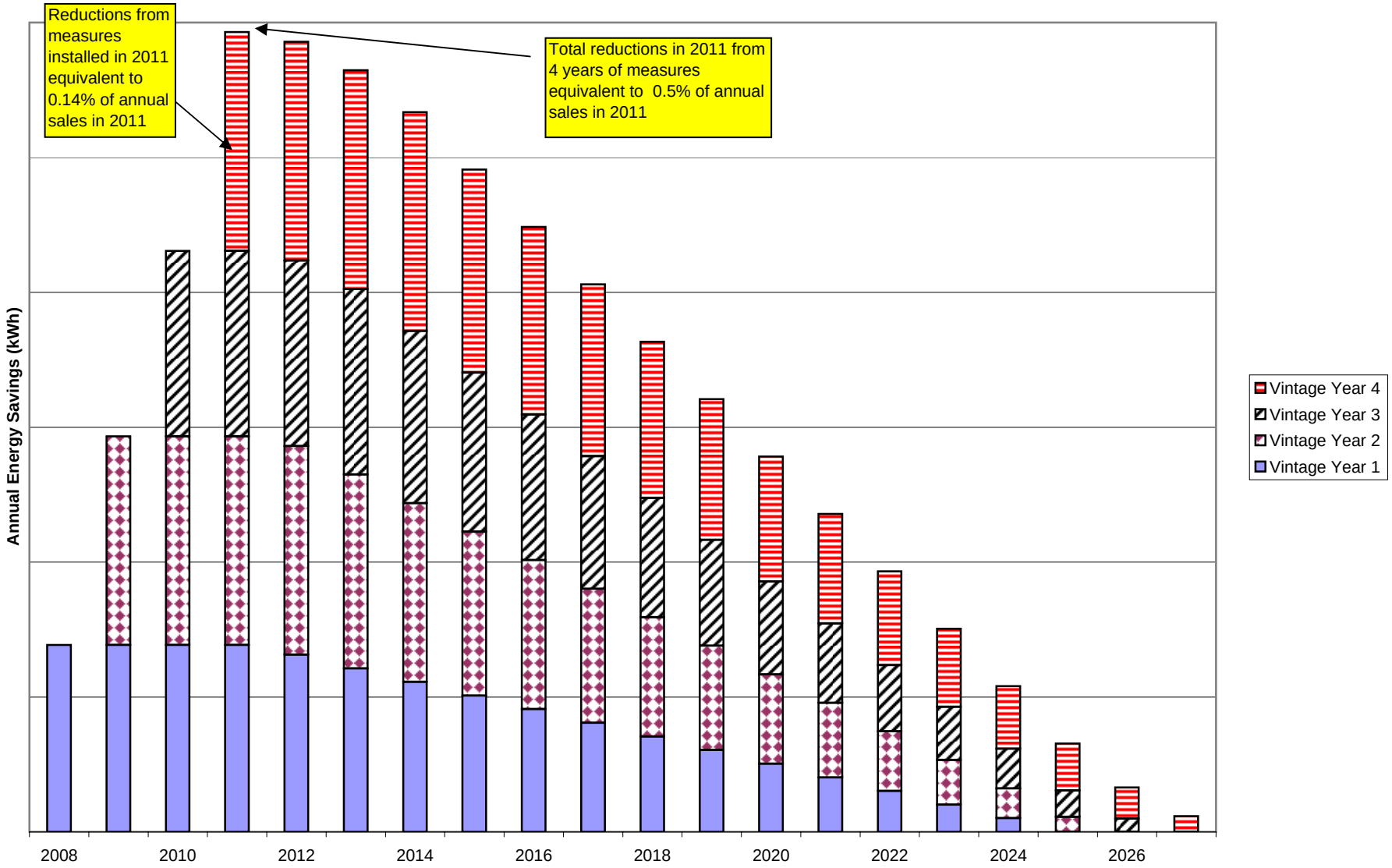
4 Saved capacity includes 2008-2032 for energy efficiency programs, but only 2008-2011 for demand response as it is assumed that the impact of demand response does not persist over a number of years as with e

5 Saved energy includes 2008-2032 for energy efficiency programs; no saved energy was claimed for demand response programs

Sources:

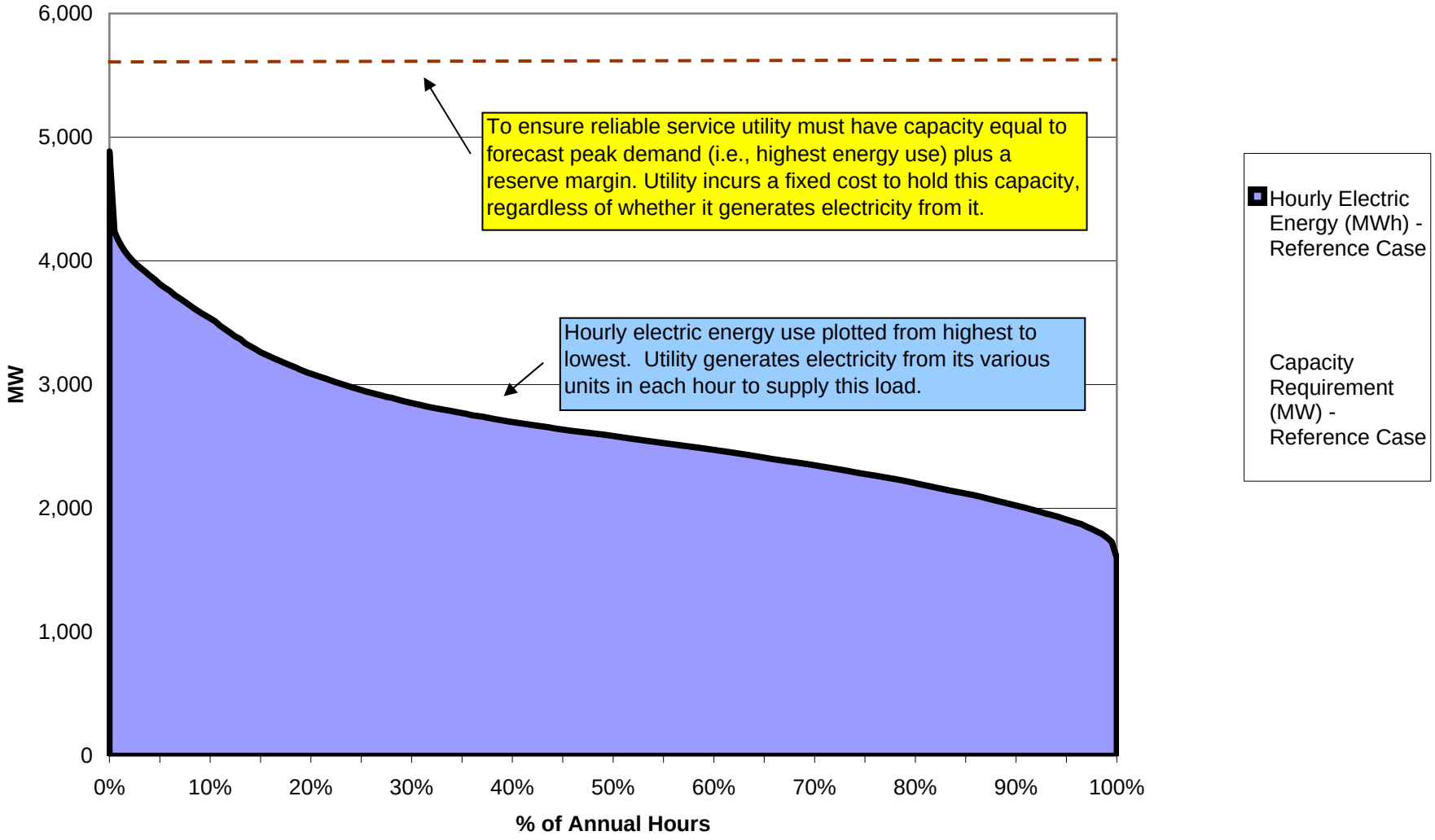
Confidential Exhibit___(JRH-2)

Projected Reductions in annual energy by "vintage year" (assumes vintage year 1 is 2008)



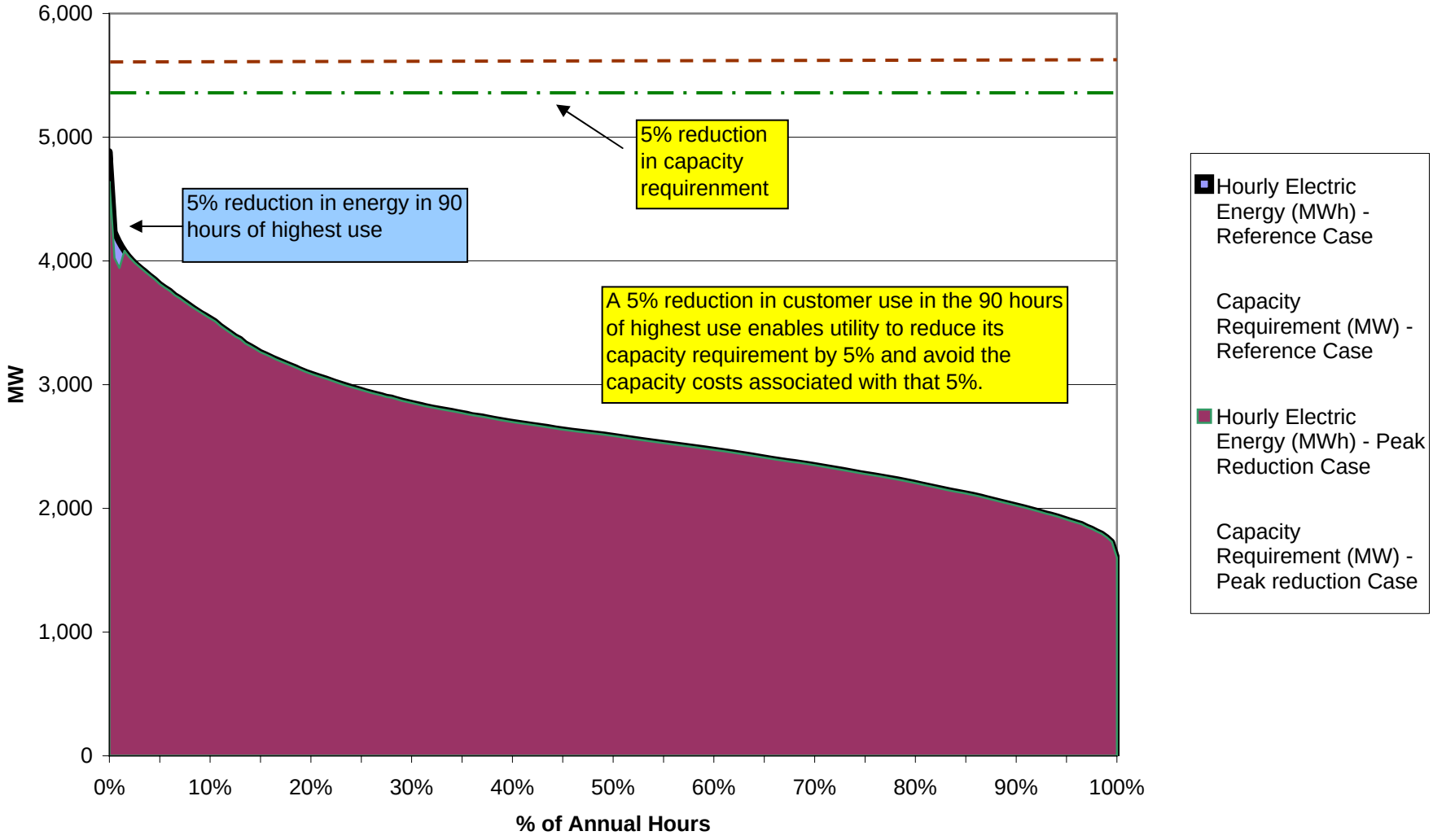
Electric Capacity and Energy for an Illustrative Year and Utility

Reference Case



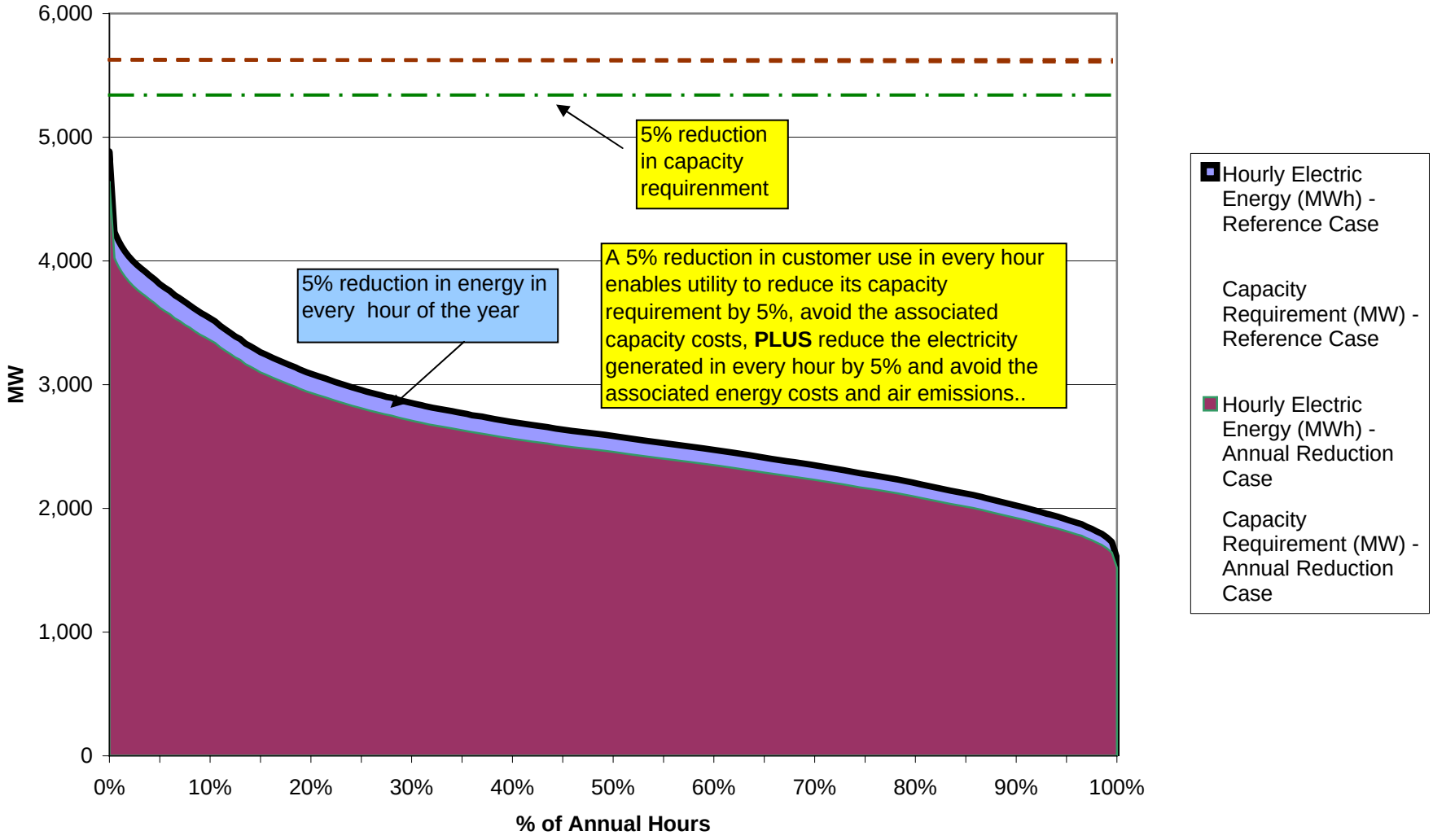
Electric Capacity and Energy for an Illustrative Year and Utility

5% Reduction in Peak Demand



Electric Capacity and Energy for an Illustrative Year and Utility

5% Reduction in Annual Electricity Use



			Reduction in Peak Demand in 1% of Hours of Year -5%	Reduction in Every Hour of Year -5%
Customer A				
Load factor	**%**	**17%**		
Peak	**kw**	**3**		
Annual	**kwh**	**4,500**		
Bills				
Monthly	**$/month**	**42**		
Annual	**$/year**	**$ 504**		
Reductions				
Peak demand	**kw**		**-0.15**	**-0.15**
Annual energy	**kwh**		**-13.5**	**-225.0**
Avoided Costs				
Capacity (2)	**$/kw - yr**	**80**		
Energy (2)	**$ per kwh**	**0.08**		
Savings				
Capacity	**$/year**		**$ (12.0)**	**$ (12.0)**
Energy	**$/year**		**$ (1.1)**	**$ (18.0)**
Total	**$/year**	**$ 504**	**$ (13)**	**$ (30)**
Impact			**-2.6%**	**-6.0%**
Customer B				
Load factor	**%**	**46%**		
Peak	**kw**	**3**		
Annual	**kwh**	**12,089**		
Bills				
Monthly	**$/month**	**92**		
Annual	**$/year**	**$ 1,104**		
Peak reduction	**kw**		**-0.15**	**-0.15**
Annual reduction	**kwh**		**-13.5**	**-604.4**
Capacity Cost (w reserve r	**$/kw - yr**	**80**		
Energy Cost	**$ per kwh**	**0.08**		
Capacity Cost	**$/year**		**$ (12.0)**	**$ (12.0)**
Energy Cost	**$/year**		**$ (1.1)**	**$ (48.4)**
Total	**$/year**	**$ 1,104**	**$ (13)**	**$ (60)**
Impact			**-1.2%**	**-5.5%**

Usage data for customers from *Typical Bills and Average Rates Report* , Edison Electric Institute, Winter 2006, page 131
Avoided costs of capacity and energy are assumptions for illustrative purposes

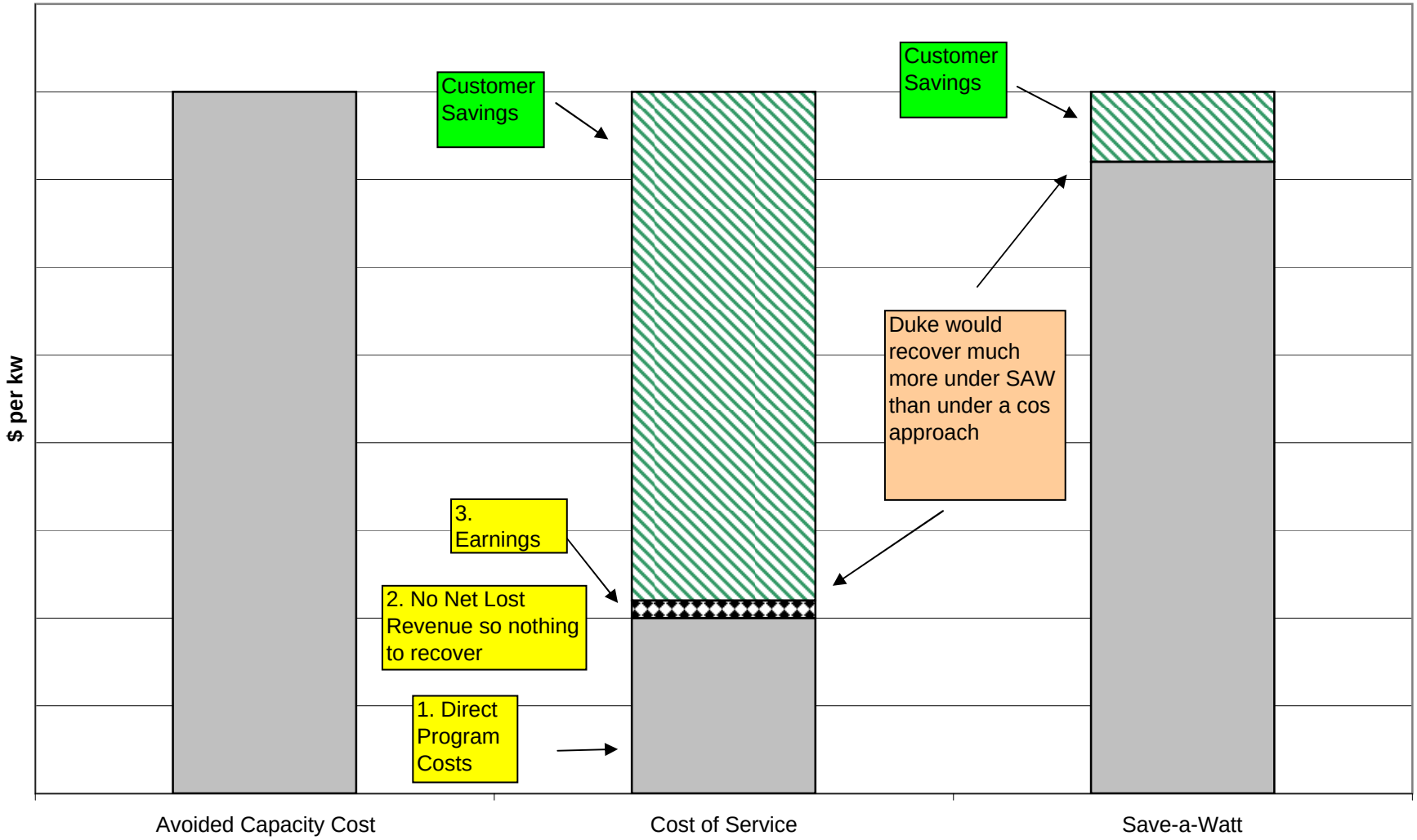
Policy and Ratemaking Frameworks For Annual Energy Efficiency Expenditures In Various States

Jurisdiction	Energy Goal?	Description of Goal [9]	Ratemaking Framework		
			Direct Program Costs [2]	Treatment of Utility Financial Disincentive to Reductions from Energy Efficiency	Performance Incentive
California	Yes	IOUs to save more than 1% of total forecast electricity sales per year (in 2013, 23,183 GWh and 4,885 MW peak)	Yes	Decoupling	Yes
Massachusetts	Under development (7)	Specific goal not stated as of May 19, 2008	Yes	No [3]	Yes
New York	Yes	15% of total forecasted sales in 2015	Yes	No [4]	No
Washington	Yes	10.6% of projected needs by 2025 offset with improvements in energy efficiency	Yes	No [3]	No
Texas	Yes	20% of load growth through end use energy efficiency	Yes	No	No
Ohio	Yes (8)	22% of load by 2025	Yes	No [5]	No (5)
Connecticut	Yes	By 2010, procure 4% of electricity sales from "Class III" resources, such as energy efficiency and combined heat and power	Yes	No [3]	Yes
Vermont	Yes	3.5% of 2006 sales in 2007/2008	Yes	No	Yes
Minnesota	Yes	Minimum of 1% annual energy savings of electric and natural gas sales from energy efficiency	Yes	No [6]	Yes

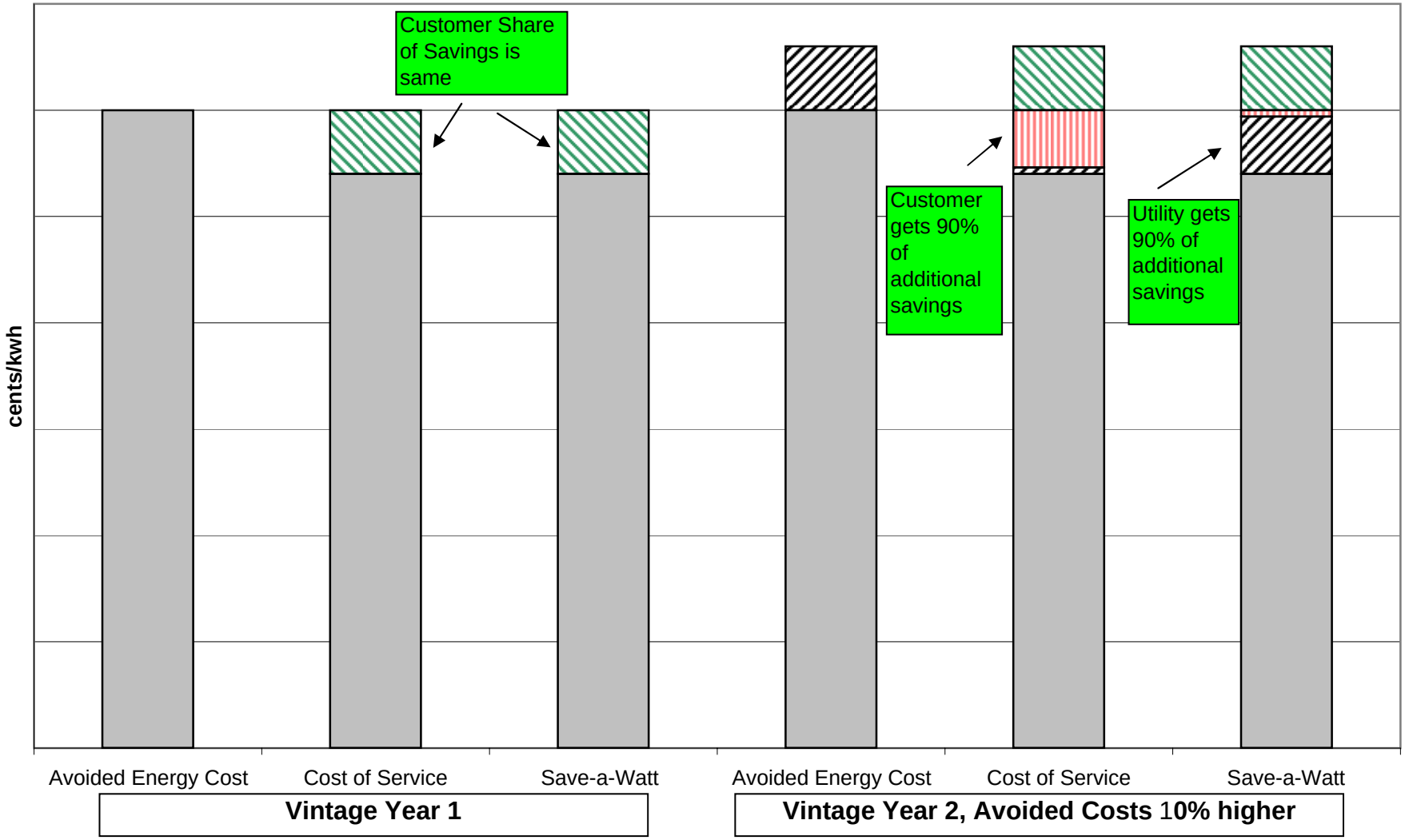
SOURCES

[1] American Council for an Energy-Efficient Economy, State EERS and RPS and Activity, 2007, http://www.aceee.org/Energy/state/2pgEERS.pdf
[2] Kushler et al, Aligning Utility Interests with Energy Efficiency Objectives: A Review of Recent Efforts at Decoupling and Performance Incentives, October 2006.
[3] Massachusetts, Washington, Connecticut are considering decoupling.
[4] New York Public Service Commission recently required electric and gas utilities to to develop true-up based revenue decoupling mechanisms in Case 03-E-0640, Issued April 20, 2007
[5] Ohio has approved Duke Energy Ohio recovery of lost revenue and share of savings. Ohio is examining decoupling for natural gas utilities.
[6] Minnesota abandoned its lost revenue adjustment mechanism in favor of substantial performance incentives several years ago.
[7] Senate Bill No. 2468. Found at: http://www.mass.gov/legis/bills/senate/185/st02/st02468.htm
[8] Senate Bill No. 221. Found at: http://www.legislature.state.oh.us/bills.cfm?ID=127_SB_221
[9] State EERS and RPS Activity. ACEEE. September 2007. Found at: http://aceee.org/energy/state/2pgEERS.pdf

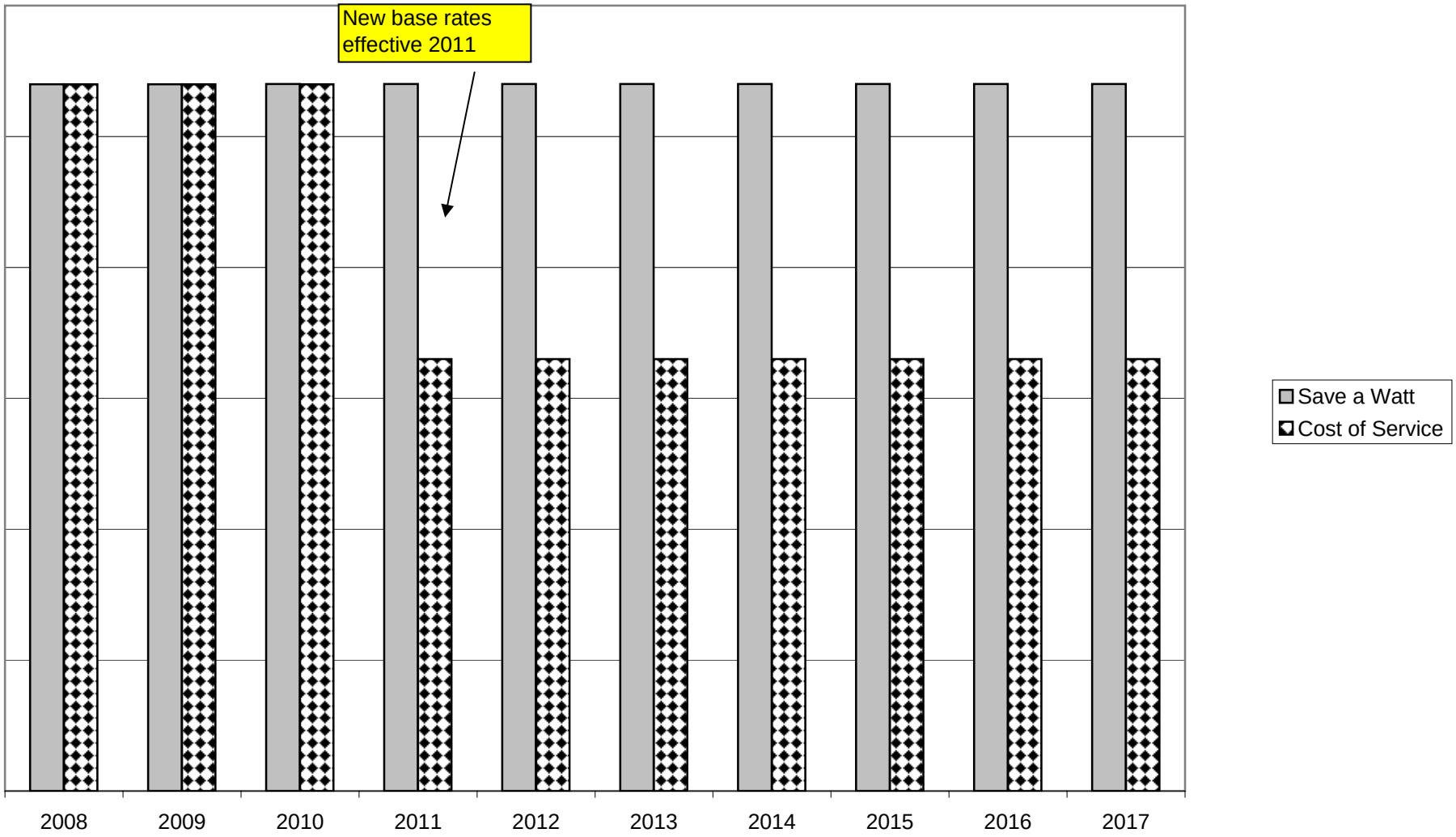
Example 1 - Recovery of revenue requirements related to reduction in peak demand under cost of service and save a watt approaches ($ per kw)



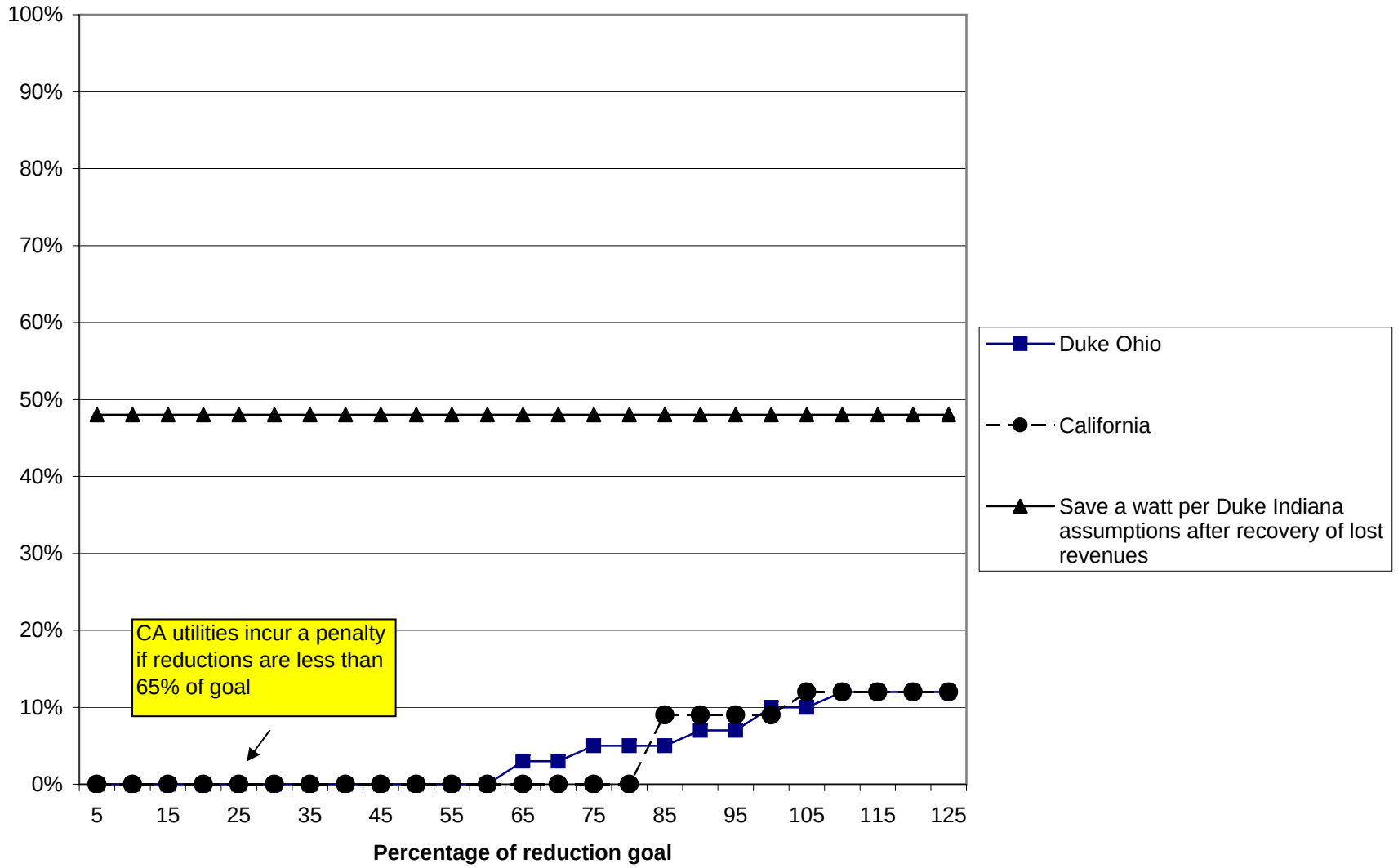
Example 2 - Recovery of revenue requirements related to reduction in annual energy from a given measure when avoided costs increase from vintage year 1 to vintage year 2



Example 3 - Recovery of revenue requirements under save a watt and cost of service before and after a general rate case (cents/kwh)



Utility share of savings under cost-of-service and save a watt approaches



Reductions in Annual Energy Achieved by Utility Programs in Various States and Proposals by Duke Energy Companies

Jurisdiction	Utility	Formal or Informal Energy Goal	Ratemaking Framework			Most Recent "First Year" Savings as % of Annual Sales in that Year	Sources
			Direct Program Costs	Treatment of Utility Financial Disincentive to Reductions from Energy Efficiency	Performance Incentive		
ACHIEVED							
California	SDG&E	Yes	Yes	Decoupling	Yes	2.00% (2005)	1
California	Southern California Edison	Yes	Yes	Decoupling	Yes	1.70% (2005)	2
California	PG&E	Yes	Yes	Decoupling	Yes	1.40% (2005)	3
Massachusetts	Massachusetts Electric Co.	Under Development	Yes	No	Yes	1.30% (2005)	4
New York	New York IOUs	Yes	Yes	No	No	0.60% (2006)	5
Washington	Puget Sound Energy Inc	Yes	Yes	No	No	1.37% (2007)	6
Washington	Avista Corp	Yes	Yes	No	No	0.99% (2007)	7
Washington	PacifiCorp	Yes	Yes	No	No	1.28% (2007) *	8
Texas	Texas IOUs	Yes	Yes	No	No	0.90% (2006)	9
Connecticut	Connecticut IOUs	Yes	Yes	No	Yes	1.11% (2006)	11
Vermont	Vermont Energy	Yes	Yes	No	Yes	1.80% (2007)	12
Minnesota	Interstate Power & Light	Yes	Yes	No	Yes	2.90% (2006)	13
PROPOSED by Duke Companies							
Ohio	Duke Energy Ohio	Yes	Yes	Yes	Yes	0.4% (2006)	10
Indiana	Duke Energy Indiana		Yes	No	No	0.14% (Year 4) **	14
South Carolina	Duke Energy Carolinas		Yes	No	No	0.21% (Year 4) **	15
North Carolina	Duke Energy Carolinas		Yes	No	No	0.24% (Year 4) **	16

Sources

General **Exhibit___(JRH-3)**

1 San Diego Gas & Electric 2006. Energy Efficiency Programs Annual Summary and Technical Appendix: 2005 Results, Table 1.2a on page 1-7.

2 Southern California Edison 2005. 2005 Energy Efficiency Annual Report, Table 1.2 on page 1.10.

3 Pacific Gas and Electric 2006. 2006 Energy Efficiency Programs Annual Report for 2005 Technical Appendix.Table 1 on page 1-1.

4 Massachusetts Electric Company 2006. 2005 Energy Efficiency Annual Report Revisions, page 2.

5 NYSERDA 2008. 2007 New York Energy $martsm Program Evaluation and Status Report, Table 2-14 on page 2-29

6 May 6, 2008 email from Tom Eckman of the Northwest Power and Conservation Council

7 May 6, 2008 email from Tom Eckman of the Northwest Power and Conservation Council

8 May 6, 2008 email from Tom Eckman of the Northwest Power and Conservation Council

9 Frontier Associates LLC 2007. Energy Efficiency Accomplishments of Texas Investor Owned Utilities Calendar Year 2006, Table 3 on page 7.

10 Based on the projected savings in Duke Energy Ohio's Amended Application to Establish Demand-Side Management Programs for Residential and Non-Residential Customers, Case No. 06-91-EL-UNC, 06-92-EL-UNC, 06-93-GA-UNC, filed on 8/15/2006, Appendix A on page 4

11 Connecticut Energy Conservation Management Board 2007. Energy Efficiency Investing in Connecticut's Future: Report of the Energy Conservation Management Board Year 2006 Programs and Operations, Chart B on page 14.

12 Efficiency Vermont 2008. 2007 Preliminary Results and Savings Estimate Report, page 24

13 IPL DSM Filing 2006, Docket No. 05-581.01, Table 1-1 on page 13

14 Calculated using Confidential Attachment CAC 2.1-A - Fall 2007 Annual Forecast.xls and Petitioner's Exhibit M-1-R.xls

15 Calculated using Schedule SELC 10(c).xls and Schedule SELC 1 Financial Comparison Detail.xls

16 Calculated using Schedule SELC 10(c).xls and Schedule SELC 1 Financial Comparison Detail.xls

Notes

Sales data obtained from EIA 861 database were used to estimate savings as % of sales.

* Results include Washington and Idaho service territory

** For purposes of analysis, year 4 is assumed to be 2011

Exhibit No. ___ (JRH-12)

Responses of Duke Energy Indiana, Inc. to Selected Data Requests

Response CAC 3.1

Response CAC 3.2

Response CAC 3.7

Response CAC 3.8

Response CAC 4.6

Response CAC 4.7

Response CAC 4.9

Response CAC 4.10

Response CAC 4.11

Response CAC 4.13

Response CAC 4.15

Response CAC 4.22

CAC
IURC Cause 43374
Data Request Set No. 3
Received: March 24, 2008

CAC 3.1

Request:

Refer to testimony of Mr. Rogers. Page 3, lines 19 and 20, re relative energy efficiency.

a. Please describe each quantitative metric that Duke Energy Indiana (Duke" or "the Company") proposes to use to measure the energy-efficiency of or in its service territory. If the Company is not proposing to use any such metric, please explain why not.

b. Please explain the basis for choosing each quantitative metric

c. Please describe the benchmarks against which the Company proposes to measure the level of energy-efficiency in its service territory, and the rationale for choosing those benchmarks. If the Company is not proposing to use any such benchmarks, pleas explain why not.

d. Please provide the forecast value of each metric if Save A Watt is not implemented. If the Company did not make this calculation, please explain why not.

e. Please provide the forecast value of each metric if Save A Watt is implemented If the Company did not make this calculation, please explain why not.

Response:

The statement referred to in this data request involved setting a goal to be the most energy efficient economy in the world. This goal is an aspiration. There are no metrics at this time.

CAC
IURC Cause 43374
Data Request Set No. 3
Received: March 24, 2008

CAC 3.2

Request:

Refer to testimony of Mr. Rogers. Page 3, line 20, re "de-carbonize".

a. Please describe each quantitative metric that Duke Energy Indiana (Duke" or "the Company") proposes to use to measure the carbon intensity of or in its service territory. If the Company is not proposing to use any such metric, please explain why not.

b. Please explain the basis for choosing each quantitative metric

c. Please describe the benchmarks against which the Company proposes to measure the level of carbon intensity in its service territory, and the rationale for choosing those benchmarks. If the Company is not proposing to use any such benchmarks, pleas explain why not.

d. Please provide the forecast value of each metric if Save A Watt is not implemented. If the Company did not make this calculation, please explain why not.

e. Please provide the forecast value of each metric if Save A Watt is implemented If the Company did not make this calculation, please explain why not.

Response:

This objective is an aspiration. No metrics have been set at this time.

CAC
IURC Cause 43374
Data Request Set No. 3
Received: March 24, 2008

CAC 3.7

Round 3 Discovery Questions from Synapse

Request:

Refer to testimony of Mr. Stanley. Page 10, lines 4 to 17, re alternative regulatory plan (ARP). The Company is requesting that the Commission decline the exercise of its ratemaking jurisdiction over the Company's energy efficiency related revenue requirements by approving its proposed ARP approach for Save-A-Watt. An alternative approach to promoting the Company's pursuit of energy efficiency would be for the Commission to exercise its jurisdiction through a ratemaking framework that allowed recovery of direct costs of efficiency programs, removed financial disincentives to pursuit of efficiency and provided performance incentives for efficiency programs.

a. Please provide all analyses prepared by, or for, the Company which indicate that the conditions and benefits identified on lines 4 to 7 render the exercise of Commission jurisdiction unnecessary or wasteful relative to a ratemaking framework subject to Commission jurisdiction. If the Company has not prepared such an analysis, please explain the basis for its position that ARP is the preferable approach.

b. Please provide all analyses prepared by, or for, the Company which indicate that the benefits identified on lines 7 to 13 would be achieved more effectively or at cost under an ARP approach than under a ratemaking framework subject to Commission jurisdiction. If the Company has not prepared such an analysis, please explain the basis for its position that ARP is the preferable approach.

c. Please provide all analyses prepared by, or for, the Company which indicate that the promotion of energy efficiency identified on lines 13 to 15 would be achieved more effectively or at cost under an ARP approach than under a ratemaking framework subject to Commission jurisdiction. If the Company has not prepared such an analysis, please explain the basis for its position that ARP is the preferable approach.

d. Please provide all analyses prepared by, or for, the Company which indicate that it would be in the public interest for the Company to compete with other providers of energy efficiency services as identified on lines 15 to 18. If the Company has not prepared such an analysis, please explain the basis for its position that an ARP approach is in the public interest.

Response:

Duke Energy Indiana objects to this request on the grounds of the CAC's misinterpretation of what the Company is requesting. Duke Energy Indiana is asking for approval of an alternative regulatory plan, not an order declining jurisdiction.

CAC
IURC Cause 43374
Data Request Set No. 3
Received: March 24, 2008

CAC 3.8

Round 3 Discovery Questions from Synapse

Request:

Refer to testimony of Mr. Stanley. Page 10, lines 8 to 13, re customer bills under an ARP.

a. Please provide the forecast of customer bills if Save A Watt is not implemented. If the Company did not make this calculation, please explain why not.

b. Please provide the forecast of customer bills if Save A Watt is implemented. If the Company did not make this calculation, please explain why not.

Response:

a. The Company did not prepare a forecast of bills with save-a-watt implemented or not. The Company relied upon an IRP analysis that showed that the present value revenue requirements would be lower with save-a-watt than without it.

b. See the supplemental testimony of Stephen M. Farmer, Petitioner's Exhibit N-4, filed on March 26, 2008.

Witness: **Richard G. Stevie; Steve Farmer**

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.6

Request:

In the Company's filing, program costs are estimated for Save-A-Watt for four years into the future.

a. Please state whether the Company has estimated the direct capital and labor costs of energy efficiency and/or demand response measures beyond that timeframe.
b. If so, please provide these estimates by year, in total and by program.
c. If not, please explain why not.

Response:

Duke Energy Indiana objects to this request to the extent it requests an analysis not already performed. Nevertheless and without waiving this objection, Mr. Stevie states as follows:

a. Revised Petitioner's Confidential Exhibit M-1 provides the estimates of projected program costs by program. This information is not available broken down to direct capital and labor.
b. Not applicable.
c. Not applicable.

Witness: Richard G. Stevie

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.7

Request:

Vintage-Specific Data. Please provide the following projections, in aggregate, for all Save-A-Watt programs with all supporting calculations:

a. Program Costs for each year for each vintage
b. Net Lost Revenues for each year for each vintage
c. Earnings for each year for each vintage
d. kWh savings for each year for each vintage
e. kW savings for each year for each vintage
f. Avoided Costs for each year for each vintage
g. Revenues for each year for each vintage

Response:

Duke Energy Indiana objects to this request to the extent that it requests an analysis that has not been performed. Nevertheless and without waiving this objection, Duke Energy Indiana states that vintage level information has not been compiled.

Witness: Richard G. Stevie

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.9

Request:

Testimony of Mr. Rogers. Page 10, line 19 to page 12, line 12, re "Save-A-Watt" and testimony of Mr. Schultz.

a. Please provide a copy of the Order approving the method(s) and/or mechanism(s) through which Duke Energy Ohio is compensated for its energy efficiency programs.
b. Please provide the most recent annual report describing the energy efficiency programs of Duke Energy Ohio, including annual budgets and annual capacity and energy savings by program.
c. Please provide all reasons why Duke Energy Indiana decided to not propose an energy efficiency program compensation approach similar to that under which Duke Energy Ohio is operating. Please include all the analyses prepared by, or for, Duke Energy Indiana upon which its decision was based.

Response:

a and b. Duke Energy Indiana objects to this request on the grounds that it requests information not relevant to this proceeding. Duke Energy Indiana further objects to this request to the extent it requests information that is publicly available. Neverthetheless, without waiving this objection and in the spirit of cooperation, please see Attachment CAC 4.9-A and B.

c. In Cause No. 42612, Duke Energy Indiana proposed an approach very similar to that which is approved in Ohio; it was opposed by the parties, including CAC, and rejected by the Commission. Additionally, in the early 1990's, Duke Energy Indiana negotiated an approach similar to the Ohio approach -- ultimately, Duke Energy Indiana gave up both the shared savings incentive in its entirety, and lost revenue recovery going forward, in order to assure recovery of outstanding program cost recovery regulatory assets. Aside from being constrained by Commission precedent and past opposition by the OUCC as to an Ohio-type approach, Duke Energy Indiana believes that its save-a-watt approach is superior to the current approach in place in Ohio.

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.10

Request:

Testimony of Mr. Stanley. Page 7, line 14, re reduced cost. For a given quantity of capacity and energy savings, where physical and cost savings are measured relative to a reference case in which Save-A-Watt is not approved, please provide all analyses prepared by, or for, Duke Indiana of the reduction of costs to customers:

a. Under Save-A-Watt. If no such analysis was prepared please explain why not;
b. Under a cost of service based compensation mechanism such as those identified on pages 38 to 44 of the Direct Testimony of Mr. Rose, particularly those designed along the lines of the cost of service approach described in recently adopted Commission rules. If no such analysis was prepared please explain why not.

Response:

a. See the response to CAC 2.2.
b. Neither Mr. Rose nor the Company have performed such analysis. The focus has been on the charges to consumers under the proposed recovery mechanism, not a cost-of-service based evaluation.

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.11

Request:

Testimony of Mr. Stanley. Page 7, line 14, re reduced environmental impact.

a. Please provide all analyses prepared by, or for, Duke Energy Indiana of the reduction in environmental impacts attributable to the reductions in peak demand expected under Save-A-Watt. If no such analysis was prepared please explain why not.
b. Please provide all analyses prepared by, or for, Duke Energy Indiana of the reduction in environmental impacts attributable to the reductions in annual energy expected under Save-A-Watt. If no such analysis was prepared please explain why not.

Response:

a. Duke Energy Indiana objects to this request to the extent that it requests an analysis to be performed that has not been done. Nevertheless, and without waiving this objection, Duke Energy Indiana states that actual reductions have not yet been measured and verified and will vary depending on time, weather, and the unit type displaced, thus the environmental impacts can not be quantified.
b. See the response provided to a. above.

Witness: Theodore Schultz

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.13

Request:

Testimony of Mr. Rose, pages 19 to 45

a. Please provide all analyses prepared by Mr. Rose of utilities who in the past were, or who currently are, compensated for their energy efficiency programs at a percentage of their avoided costs, i.e., similar to Save-A-Watt.
b. Was Mr. Rose involved in the design and development of Save-A-Watt? If so, please describe the role that he played.
c. Rose Table 2 on page 33 provides statistics on efficiency savings achieved in other states as of 2004. Has Mr. Rose prepared or examined any other metrics of control of energy use by state, such as annual energy per capita over time? If so, please provide that material. If not, please explain why not.
d. Table 2 on page 33 provides statistics on efficiency savings achieved in other states as of 2004. Please update this table using the most recent data publicly available.
e. Please provide all analyses prepared by Mr. Rose of the additional savings that each of the states identified in Table 2 are expected to achieve by 2015 based upon their currently effective programs. If Mr. Rose has not prepared such an analysis, please explain why not.
f. Table 2 on page 33 provides statistics on efficiency savings achieved in other states as of 2004. Please update this table using the most recent data publicly available.
g. Please provide all analyses prepared by Mr. Rose of the ability of Save-A-Watt to achieve savings greater than those in Table 2 by 2015.
h. Please explain why Mr. Rose provided descriptions of the compensation arrangements for energy efficiency described on pages 37 to 45.
i. Please identify every docket in which Mr. Rose has testified in support of any or all of the compensation arrangements for energy efficiency described on pages 37 to 45.
j. Please identify every docket in which Mr. Rose has testified in opposition to any or all of the compensation arrangements for energy efficiency described on pages 37 to 45.

Response:

Duke Energy Indiana objects to this request to the extent it request an analysis that has not been performed. Nonetheless, Mr. Rose answers as follows:

a. Mr. Rose did not perform such analysis
b. No. Mr. Rose was not involved in the design and development of Save-a-Watt. Mr. Rose supports the overall concept of the plan.
c. Mr. Rose examined other metrics of control of energy by state. Please see Attachments CAC 4.13-A through CAC 4.13-F.
d. Mr. Rose is not aware of any update information that is available at this time.
e. No, Mr. Rose has not prepared such analysis because he was most interested in what had actually been achieved as opposed to plans which might not be achieved.
f. See response to 4.13d.
g. Not applicable.
h. Mr. Rose wanted to provide information on alternative and representative incentive approaches to highlight the importance of incentives, as well as the variety.
i. Mr. Rose has not testified in support of any or all of the compensation arrangements for energy efficiency in other dockets.
j. Mr. Rose has not testified in opposition to any or all of the compensation arrangements for energy efficiency in other dockets.

Witness: Judah Rose

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.15

Request:

Testimony of Mr. Rose, page 44 lines 18 to 21.

a. Please explain what is meant by this sentence.
b. Is it the position of Mr. Rose that Save-A-Watt will achieve capacity and energy savings closer to the estimated potential than would any of the compensation arrangements for energy efficiency described on pages 37 to 45 of his testimony? If so, please provide the analyses he relied upon to form his position.

Response:

a. In many situations the starting point for setting utility incentives is recovery of the cost of implementing the programs. Thus far, this type of approach has not resulted in the utility industry achieving the estimated potential savings. By focusing on the value, i.e., the difference between the cost estimate of implementing programs and value, i.e., the cost of avoiding demand is more likely to result in savings close to the potential. This value orientation also contributes to a results-oriented approach, maximizing incentives for utility action, addressing the uncertainty and risks and streamlining the energy efficiency process by focusing on the common metric of avoided costs.

b. Mr. Rose does not believe a definitive conclusion is possible, but believes that because the program provides more incentives than the other programs, it has the potential to provide the most savings. The analysis relied upon the estimates of potential savings, the failure across states an time to achieve these savings, and the amount of incentives potentially available.

Witness: Judah Rose

CAC
IURC Cause No. 43374
Data Request Set No. 4
Received: April 30, 2008

CAC 4.22

Request:

Testimony of Mr. Farmer, page 15 lines 15 to 17 re "billing factors" and Petitioner's Exhibit L-3. Assume the Company has a general rate case in Year 3 in which it uses Year 2 as a test year. Further assume that the Commission approves new base rates effective on January 1 of Year 4 that reflect a new lower set of annual sales. The new lower annual test year sales level reflects the cumulative reduction in annual energy due to Save-A-Watt in Years 1 and 2.

a. How would the new, lower level of test year sales effective January 1 of Year 4 affect the calculation of the billing factor? Please provide all calculations.
b. How would the new, lower level of test year sales effective January 1 of Year 4 affect the Year 4 calculations in Petitioner's Exhibit L-3? Please provide all calculations.
c. Please confirm that new base rates derived from new lower annual test year sales levels would eliminate any "net lost margin or net lost revenues" caused by the cumulative reduction in annual energy due to save a watt in Years 1 and 2. If the Company cannot confirm this outcome, please explain why not.

Response:

Duke Energy Indiana objects to this request on the grounds that the request is ambiguous and does not specify whether the presumed reduction in "annual sales" is meant to mean annual jurisdictional revenues or whether the question is intended to mean a presumed reduction in annual kilowatt-hour sales. Furthermore, Duke Energy Indiana objects to the request because it requests the Company to engage in speculation. Nevertheless and without waiving this objection, the Duke Energy Indiana states as follows:

a. The Company's calculation of estimated Rider EE billing factors for the first four years of the Company's Energy Efficiency Plan shown on Farmer Supplemental Exhibit N-3 and as included in the supplemental workpapers of Stephen M. Farmer filed on March 26, 2008 include an estimate of the reduction in kilowatt-hour sales applicable to demand response and energy efficiency initiatives. The estimated reduction in annual kilowatt-hour sales attributable to the Company's Energy Efficiency Plan is not limited to those reductions that may occur during years 1 and 2 but also includes estimates of reductions in kilowatt-hour sales for years 3 and 4.

b. See the response to "a" above.
c. The Company cannot speculate as to whether new base rates from test period sales levels would eliminate any "net lost margin or net lost revenue" caused by the cumulative reduction in annual energy due to save a watt without a clear understanding of the assumptions embedded within the hypothetical question. For example, would test period revenues include revenues billed under the Company's proposed Energy Efficiency Plan, or, does the question assume that revenues billed under the Company's proposed Energy Efficiency would be excluded from the hypothetical test period? If the test period included revenues billed under Rider EE, would the balance adjustment in Rider EE be reconciled (i.e, synchronized) with test period results?

Witness: Stephen M. Farmer