Exhibit No.:	
Issues:	DSM Expensing and Performance Incentives
Witness:	Adam Bickford
Sponsoring Party:	Missouri Department of Natural Resources - Energy Center
Type of Exhibit:	Direct Testimony
Case No.:	ER-2010-0036

DIRECT TESTIMONY

OF

ADAM BICKFORD

MISSOURI DEPARTMENT OF NATURAL RESOURCES

ENERGY CENTER

December 18, 2009

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

UNION ELECTRIC COMPANY d/b/a AMERENUE

RATE CASE

CASE NO. ER-2010-0036

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I. INTRODUCTION

Q. Please state your name and address.

A. My name is Adam Bickford. My business address is Missouri Department of Natural Resources, Energy Center, 1101 Riverside Drive, P.O. Box 176, Jefferson City, Missouri 65102-0176.

Q. Please describe your educational background and employment experience

A. I began work with the Missouri Department of Natural Resources Energy Center in August, 2009. In my current position I am a Research Analyst. Prior to working with Missouri Department of Natural Resources I have been employed as a program evaluator by Optimal Solutions Group, LLC in Hyattsville, Maryland; the University of Missouri Extension Office of Social and Economic Data Analysis in Columbia, Missouri; and the Smithsonian Institution in Washington D.C. In these positions my responsibilities included the design and execution of evaluation projects in the K-12 education and arts domains.

I received my B.A. degree in Sociology from the University of California, Berkeley. I hold a Masters of Arts degree and a Doctor of Philosophy degree in Sociology from the University of Chicago.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Missouri Department of Natural Resources (DNR), an intervenor in these proceedings.

Q. What is the purpose of this direct testimony?

A. The purpose of my testimony is to address demand-side management ("DSM") program cost recovery in general, and, in particular, the DSM program cost recovery mechanism proposed for Union Electric Company d/b/a AmerenUE ("AmerenUE") by

Stephen M. Kidwell in his direct testimony filed July 24, 2009. Mr. Kidwell proposes the recovery of DSM program budgeted costs in the rate period that they occur and a tracker for these expenses for truing up actual expenditures to the budgeted costs.

II. COMMENTS REGARDING AMERENUE'S PROPOSED DSM COST RECOVERY MECHANISM

Q. How does AmerenUE currently recover DSM program costs?

A. Mr. Kidwell described AmerenUE's current procedures for amortizing demand-side management (DSM) program costs in the regulatory asset account established in Case No. ER-2007-0002.[1] As costs are incurred by offering DSM programs, the costs are recorded in a regulatory asset account. During each rate case, the regulatory asset account is subjected to a prudency review by parties in the rate case, and if found to be prudent, the funds in this account plus interest calculated at AmerenUE's AFUDC rate are amortized over ten years for cost recovery.

Q. What concerns does AmerenUE have with using this DSM program cost recovery mechanism going forward?

A. Mr. Kidwell states that this account places AmerenUE recovery of DSM program costs at risk. Based on his testimony, AmerenUE's 2009 demand side investment is approximately $29 million which is expected to increase at a rate of 17% over the next five years. This will create a regulatory asset account balance of almost $170 million.

Mr. Kidwell is concerned that AmerenUE will not be able to fully recover the money spent on DSM programs. Based on the substantial balance in AmerenUE's

regulatory asset account, Mr. Kidwell believes that legitimate DSM program costs will be questioned more stringently for prudence, thereby placing AmerenUE at risk of not recovering a substantial sum at the end of the amortization period. Mr. Kidwell summarized this risk stating

> Despite our best efforts to employ the best tools and expertise available to us, prospectively determining the results of demand-side programs is an inexact mixture of art and science. There will be ample opportunity for parties hostile to our interests to judge our results with the benefit of hindsight and attempt to whittle away at our recovery of legitimate costs. The larger the demand-side regulatory asset gets, the more tempting a target it becomes for such parties.

Mr. Kidwell also states that the ten (10) year amortization does not provide timely recovery of AmerenUE's investment in DSM.

Q. What remedy does AmerenUE propose?

A: AmerenUE has proposed including in rate base for this case the full amount of the regulatory asset account as of February 28, 2010, plus the average of incremental budgeted amounts for 2010 and 2011. A DSM tracker would be used to accumulate the difference between the amount being recovered in rates and the actual amount spent on DSM programs. At its next rate case, AmerenUE would recover (or refund) any amounts in the tracker through a three year amortization of the balance, with interest. A DSM tracker would expense the DSM program costs in the rate-case period that they occur in, rather than amortizing these costs over the present ten year period. This tracker will apportion expected DSM costs into AmerenUE's base rate and reconcile these rate amounts with actual spending on DSM programs. The specifics of this plan, (i.e., the size of the rate increase, the mechanisms of cost recovery or providing

[1] Order Approving Tier I Partial Stipulation and Agreement Filed on March 15, 2007, ER-2007-002, April 21, 2007.

customer rebates, etc.) are not discussed in Mr. Kidwell's testimony. He indicates that AmerenUE requires "additional experience and dialog with stakeholders before we can adopt a definite position on [DSM cost recovery and incentive] issues."

Q. What is DNR's general position regarding DSM cost recovery?

A. DNR supports removing disincentives for electric utilities to invest in DSM programs. Electric utilities face several economic disincentives to mounting comprehensive DSM programs. These disincentives affect both the programs proposed by electric utilities, and their willingness to pursue aggressive DSM goals. Removing disincentives for utilities is critical to the implementation of cost effective energy efficiency programs. Our position is to resolve all disincentives to DSM program investment so that these programs are, at least, revenue neutral. DNR encourages the Commission to allow expensing of DSM program costs and shareholder incentives to utilities for exemplary performance of DSM programs. This position is consistent with Senate Bill 376 which states:

> It shall be the policy of the state to value demand-side investments equal to traditional investments in supply and delivery infrastructure and allow recovery of all reasonable and prudent costs of delivering cost-effective demand-side programs. (RSMo § 393.1124.3)

Delay in the recovery of DSM program costs is a critical disincentive. DNR supports and recommends policies that reduce this disincentive by reducing the uncertainty surrounding cost recovery. The current capitalization and amortization approach (which places DSM costs into a regulatory asset account) increases the uncertainty that costs will be recovered. In contrast, an expensing approach which

allows a utility to recover DSM costs in the rate period that they occur directly links DSM cost recovery to utility actions.

Q. Does DNR support the DSM tracker as proposed by AmerenUE?

A. With respect to AmerenUE's proposed DSM tracker, DNR wants to see more details regarding the DSM tracker and how it relates to program costs, energy savings and rate impacts. As Mr. Kidwell notes in his testimony, AmerenUE is in the early stages of its DSM programs, so the detailed costs and savings of the impacts of these programs are not available.

III. OTHER DISINCENTIVES TO INVESTMENT IN DSM PROGRAMS

Q. Are there other disincentives for utilities to invest in DSM programs?

A. Yes, there are. The National Action Plan for Energy Efficiency[2] identifies two additional disincentives for utilities to invest in DSM programs in addition to cost recovery:

1. Disincentives due to lost revenue recovery, and
2. Disincentives to shareholder investment in utilities due to DSM programs.

Q. Can you explain the disincentive due to lost revenue recovery?

A. When utilities employ usage sensitive, i.e. volumetric, rates, DSM programs can lead to lost revenues for the utility as customers use less electricity. To remove this disincentive, utilities can be allowed to recover the lost revenue in another fashion. Lost revenue recovery presents many outstanding challenges to revenue attribution and rate design that are still being debated throughout the electric industry and regulatory

[2] National Action Plan for Energy Efficiency 2007. *Aligning Utility Incentives with Investment in Energy Efficiency*. Prepared by Val R. Jensen, ICF International. www.epa.gov/eeactionplan

field. DNR is participating in several forums addressing this issue, including the on-going State Climate and Energy Program evaluation webinar series sponsored by the Environmental Protection Agency (EPA). One promising alternative to lost revenue recovery is to adopt a form of revenue decoupling.

Q. Is AmerenUE proposing a lost revenue recovery mechanism in this case?

A. No. Mr. Kidwell has not included a lost revenue recovery mechanism in his direct testimony.

Q. Can you explain the shareholder disincentive?

A. Supply-side investments (e.g., traditional power plants) have a known level of risk and a known level of return. DSM programs, however, have other kinds of risk associated with their successful implementation, much of which is out of the control of the utility. In addition, successful DSM programs will reduce levels of energy consumption. The different levels of risk and return will influence shareholders differently. Addressing this disincentive by providing a predictable rate of return on DSM investments is essential to getting shareholder support for DSM programs.

Q. How can this disincentive be addressed?

A. There are at least three types of incentive mechanisms: 1) a return on equity (ROE) adder, 2) performance awards for meeting specific savings targets, and 3) shared net benefits approach. The return on equity adder is an adder to ROE to reflect a fixed rate of return on the investment in DSM. With performance incentives, as a utility achieves predetermined levels of performance, the utility receives a monetary award.[3]

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[3] Sedano, R., 2006. *Incentives for Energy Efficiency*. Presentation to the Arkansas EE Collaborative. September 12, 2006. Regulatory Assistance Project. http://www.raponline.org.

The goal of establishing these incentives for utility performance on DSM programs is to provide a known rate of return on investment to shareholders for utilities' energy efficiency efforts.

Q. Are performance standards being employed for any utilities?

A. Some states have addressed the difference in risk and return to shareholders by implementing policies that reward utilities for specific levels of performance on DSM projects. The majority of the other states' incentive programs are based on performance awards or shared net benefits mechanisms. Five states have implemented plans that included ROE adders[4], while twelve states have performance incentive programs implemented either by statute or by a rate case agreement with at least one utility[5].

The twelve states have programs that award utilities for performance towards a specified energy savings or a specified net benefits goal. Many of these plans have multiple performance levels and award levels. These are summarized in the table below.

	Minimum Incentive		Maximum Incentive	
	Performance Level	Award Level	Performance Level	Award Level
Average	77.83%	5.62%	100.83%	12.03%
Minimum	50.00%	1.00%	50.00%	4.40%
Maximum	100.00%	15.00%	150.00%	20.00%
Number of States	12			

[4] Florida, Indiana, Nevada, Vermont, and Virginia

[5] California, Colorado, Connecticut, Georgia, Hawaii, Indiana, Minnesota, New Hampshire, North Carolina, Ohio, Rhode Island, and Texas

The average energy savings target to qualify for a performance incentive is 77.83 percent of the stated program goal[6]. On average the percentage of the award ranges between roughly 6 and 12 percent. The maximum level for the performance incentive is 150 percent of goal. This particular state, Colorado, awards utilities 12 percent of net economic benefits for reaching 150 percent of DSM goals.[7] The minimum and maximum values of these incentive programs are plotted in Exhibit A. As seen in the exhibit, three states have a minimum performance level of 100 percent of the specified savings or benefits goal. The minimum award percentage is also relatively low; ten of the twelve states allow utilities to recover less than 10 percent of their net savings when they meet the minimum performance level. At the other extreme, three of these states have maximum performance levels between 125 percent and 150 percent of their specified goal. Eight of these states have maximum award levels between 10 percent and 20 percent of their savings.

In these twelve states utilities are allowed to recover a percentage of the savings or net benefits that the DSM program efforts achieve. Overall program savings or benefits levels are typically set by the state government. In some cases, the overall savings level is set in statute, through a mechanism such as an Energy Efficiency Resource Standard (EERS), or by regulators, through their conventional rate case mechanism.

[6] The source material is not clear about who sets this goal, the utility or the state PSC.
[7] Schwartz, W. and Shirley, L., 2009 Energy Efficiency Incentives for Utilities: A Review of Approaches So Far. Regulatory Assistance Project, October 9, 2009. Retrieved October 28, 2009 from http://www.raponline.org/showpdf.asp?PDF_URL='docs/Schwartz%5FShirley%5FUtilityEfficiencyincentives%5F2009%5F10%5F6%2Epdf'

Q: Does DNR have a recommendation for performance incentives and for DSM program savings levels?

A: The following recommendations would be applicable only if a substantial energy savings goal is adopted. See Laura Wolfe's direct testimony for DNR recommendations on establishing an energy savings goal.

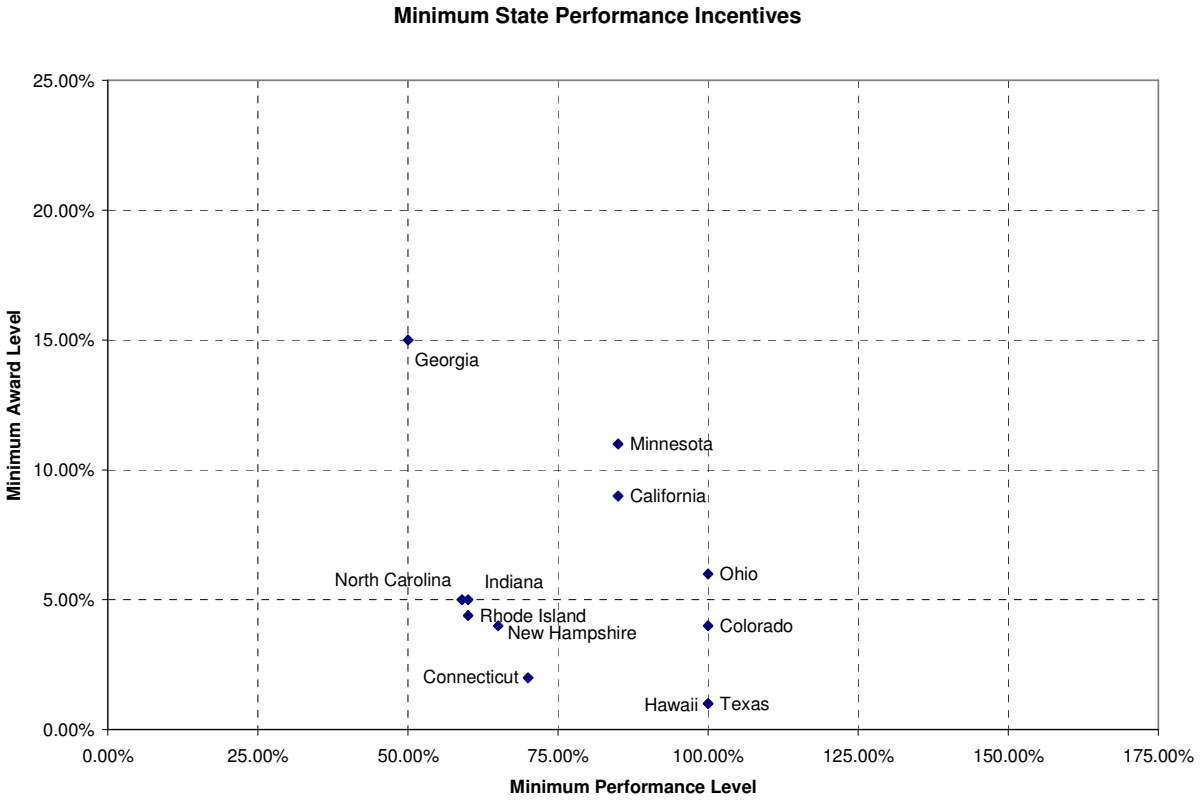
Based on analysis of other states' performance incentives, DNR recommends consideration of a performance incentive system that would award a utility 5 percent of net benefits when it realizes 75 percent of its proposed savings goal. In terms of the maximum goal, consistent with SB 376, utilities should try to achieve all cost-effective demand-side savings.

DNR also recommends consideration of a maximum performance level of 150 percent or more of a DSM savings goal. Using these two points as goals, DNR proposes a continuous award structure that provides a 1 percent incentive for each 5 percent of performance towards a utility's DSM savings goal. Under this structure, utilities achieving the maximum performance level (i.e., at 150 percent or more of the savings goal), performance awards up to 20 percent should be considered. Performance levels of 100 to 125 percent should have awards in the range of 10 to 15 percent of savings. Other specific features (i.e., whether specifying a minimum performance level to qualify for a performance award or whether to specify a maximum possible performance award) this incentive structure are being considered.

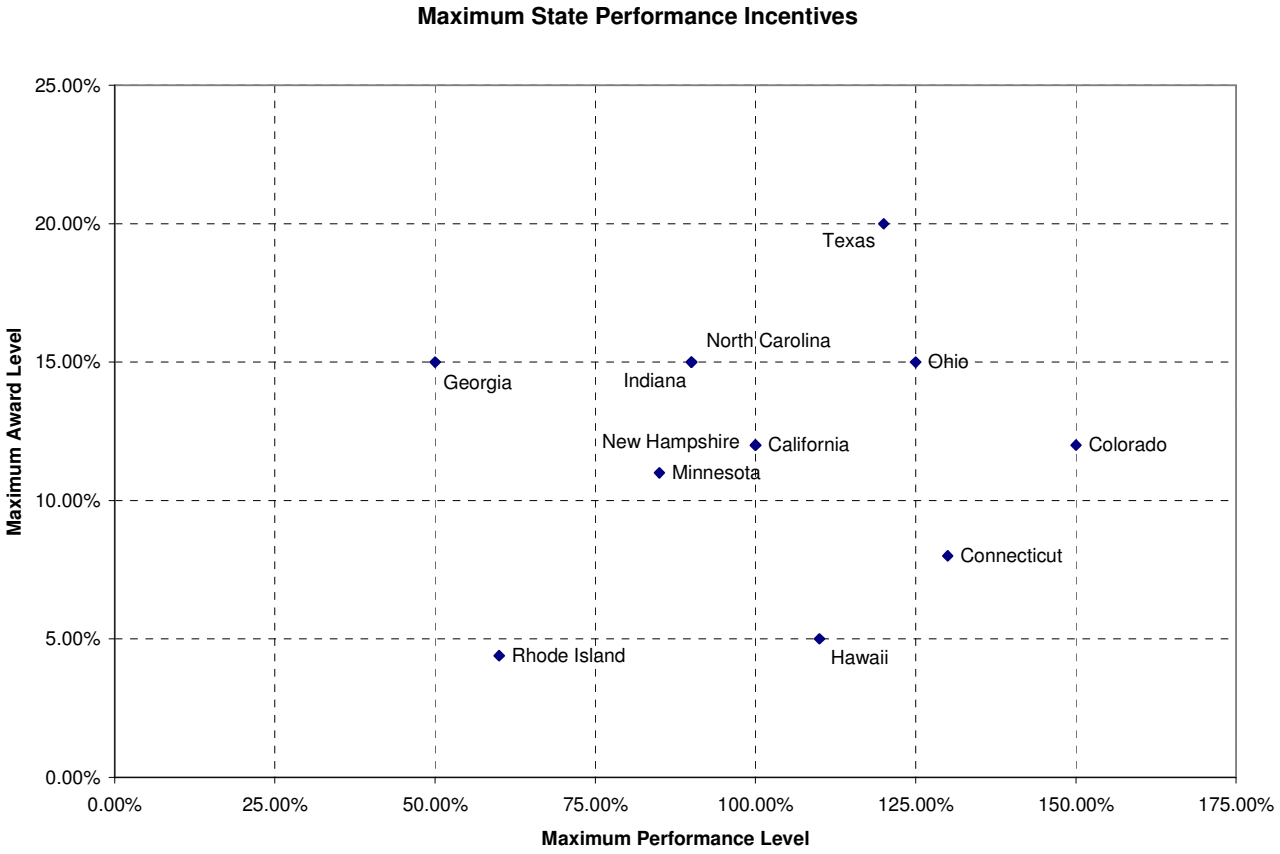
Q. Does this conclude your testimony?

A. Yes.

Exhibit A: Plots of Minimum and Maximum State DSM Performance Levels



Performance Level -- percent of DSM program savings or benefits target achieved, see the table below for details.
Award Level -- percent of DSM program savings or benefits returned to a utility as an award for achieving a performance level, see table below for details.



Performance Level -- percent of DSM program savings or benefits target achieved, see the table below for details.
Award Level -- percent of DSM program savings or benefits returned to a utility as an award for achieving a performance level, see table below for details.

	Minimum Incentive		Maximum Incentive	
State	Performance Level	Award Level	Performance Level	Award Level
California	**85.00%**	**9.00%**	**100.00%**	**12.00%**
Program Description: At less that 65% of CPUC program goal, penalty of 5¢/kWh, $25/kW, 45¢/therm below goals, or payback of negative net benefits (cost-effectiveness guarantee), whichever is greater. 65%-85% no award, 85%-100% 9% award, more than 100% 12% award				
Colorado	**100.00%**	**4.00%**	**150.00%**	**12.00%**
Program Description: TRC analysis includes avoided emissions, reduced customer O&M costs, and other clear non-energy benefits on a program-by-program basis, as well as incentive payments to utility. 0.2% of net economic benefits for each 1% of DSM goal attainment beyond 80%, up to 10% of net benefits at 130%of goal attainment •4% of net economic benefits if 100%of DSM goal is achieved –0.1% of net economic benefits for each 1% of DSM goal attainment beyond 130%, up to 12% of benefits at 150%of goal attainment				
Connecticut	**70.00%**	**2.00%**	**130.00%**	**8.00%**
Program Description: Department of Public Utility Control tied incentive levels to achieving percentage of approved savings goals: 2% (achieving 70% of goal) to 8% (achieving 130% of goal) –5% incentive for achieving 100% of goal –Figures are pre-tax; based on approved budget, not expenditures –Majority of the incentive is tied to kWh and kW savings; additional performance measures may include low-income programs, audits for industrial customers, residential new construction, and targeting regions with reliability issues				
Georgia	**50.00%**	**15.00%**	**50.00%**	**15.00%**
Program Description: Although utilities in Georgia may recover costs and an additional sum for Commission-approved DSM programs, only the Power Credit Single Family Program (Georgia Power) is currently active. The utility may earn an additional sum of 15% of the NPV of the net benefits of the program, contingent on the program achieving at least 50% of projected participation levels.				
Hawaii	**100.00%**	**1.00%**	**110.00%**	**5.00%**
Program Description: Utilities eligible for shared savings incentives until transition to 3rdparty energy efficiency administrator is complete –Four EE goals –MWh and MW savings for residential and C&I sectors –Based on gross savings (including free riders) –Incentive: 1% of net system benefits if utility meets 100% of averaged performance goals, increasing incrementally to 5% of benefits for exceeding goal by 10% or more •Net benefits = NPV of energy savings and load reductions, less program costs –Utility not eligible for incentive if it fails to meet any of the goals –Incentives limited to foregone earning opportunities from supply-side investments				

	Minimum Incentive		Maximum Incentive	
State	Performance Level	Award Level	Performance Level	Award Level
Indiana	**59.00%**	**5.00%**	**90.00%**	**15.00%**
Program Description: Statute allows Commission to approve incentives (170 IAC 4-8-7) –Including but not limited to % of net benefits, bonus ROE, or adjusting ROE for DSM performance •Must reflect value to customers of avoided or deferred supply-side resource costs minus DSM program costs Stipulated settlement for Duke Save-A-Watt program (Case 43374) –Compensation (including recovery of program costs) at 60% of NPV of generation costs avoided for conservation programs and 75% of the generation costs avoided for demand response programs •Difference in recovery % intended to eliminate bias between DR and EE –Duke would collect 85% of claimed incentive for 4-year term of agreement –True-up at end of period –Duke would refund over-collections at 6% interest; under-collections recovered at no interest over two years –Independent third party would verify actual MW and MWh reductions				
Minnesota	**85.00%**	**11.00%**	**85.00%**	**11.00%**
Program Description: Xcel Energy's New Shared Savings proposal in docket reviewing incentive mechanisms to encourage utility EE investment –Conservation Improvement Plan includes electric savings at 1.13% of sales in 2010, 1.2% in 2011 and 1.3% in 2012 through customer-based programs •Average increase of 45% over historical achievements and exceeds what company's market potential study determined to be achievable –$0.10/kWh when savings = 1.5% of sales (roughly avr. annual sales growth) –Incentive increases with savings level; % of net benefits set annually –Threshold equal to lower of: 1) 50% of average. annual energy savings achieved in the most recent five-year period, after removing the lowest and highest annual achievements, or2) Energy savings equal to 0.4% of annual retail sales –When Xcel meets its annual goals, it would retain 11% to 14% of the net benefits; >85% of the benefits would go to ratepayers –Cap: Total portfolio net benefits divided by the total energy saved •Incentive would never exceed net benefits –Only savings from direct utility programs are included in incentive calculation Filed in Docket No. E,G-999/CI-08-133 (July 1, 2009)				
New Hampshire	**65.00%**	**4.00%**	**100.00%**	**12.00%**
Program Description: There are two separate incentives in NH. The cost-effectiveness incentive is awarded for programs that achieve a cost effectiveness ratio of 1.0 or higher. The incentive is calculated as 4% of the planned EE budget times the ratio of actual to planned cost effectiveness. The energy savings incentive is awarded when actual lifetime kWh savings are greater than or equal to 65% of projected savings. The incentive is 4% of the planned EE budget times the ratio of actual to planned energy savings. Target incentive amounts are calculated separately for residential and commercial/industrial sectors and are capped at 12% of the planned sector budgets.				

	Minimum Incentive		Maximum Incentive	
State	Performance Level	Award Level	Performance Level	Award Level
North Carolina	**60.00%**	**5.00%**	**90.00%**	**15.00%**
Program Description: North Carolina state law states that a utility may propose incentives for demand side management or energy efficiency programs to the Commission for consideration. The commission approved Progress Energy Carolina's incentive mechanism that allows for an incentive of 8% of NPV of benefits from DSM programs and 13% of NPV from EE programs. The Commission is considering an avoided cost recovery mechanism submitted by Duke Energy. Duke's EE programs were approved in May 2009 with an ability to implement June 1, but there was no settlement on the regulatory model. Duke Energy and the environmental interveners, an alliance of environmental groups, reached a settlement in June 2009. The settlement contains more aggressive performance targets (~2%), with an earnings cap of 5% if Duke achieves <60% of the target and a cap of 15% if it achieves >90% of the target.				
Rhode Island	**60.00%**	**4.40%**	**60.00%**	**4.40%**
Program Description: The shareholder incentive mechanism includes two components: performance-based metrics for specific program achievements, and kWh savings targets by sector. The program performance metrics are established for each individual program, such as achieving specific savings or a certain market share for the targeted energy-efficient technology. If Narragansett (d/b/a National Grid) achieves the savings goal, it receives 4.4% of the eligible budget. The threshold performance level is 60% of the savings goal. Once the threshold level has been reached, the utility has the ability to earn an additional incentive per kWh saved up to 125% of target savings. Incentive rates change by customer class.				
Texas	**100.00%**	**1.00%**	**120.00%**	**20.00%**
Program Description: Utility receives a bonus equal to 1% of the net benefits for every 2% that demand reduction goals are exceeded •Net benefits are total avoided costs of the programs minus all utility program costs •Bonus capped at 20% of utility program costs –A utility that meets at least 120% of its demand reduction goal with at least 10% of its savings achieved through hard-to-reach programs (for low-income households) receives an additional bonus –Utilities routinely hit the caps within weeks of the programs becoming available each year, indicating that targets, programs, or both are not aggressive –Many programs do not require aggressive technologies or savings in order to comply				

Sources:

American Council for Energy Efficient Economy 2009. *ACEEE State Energy Policy Database*. Retrieved November 9, 2009 from: http://www.aceee.org/energy/state/index.htm

Edison Electric Institute 2009. *State Energy Efficiency Regulatory Frameworks*. Retrieved on October 23, 2009 from http://www.electric-efficiency.com/issueBriefs/IEE_StateRegulatoryFrame_0909.pdf

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