

NYSERDA New York State Energy Research and Development Authority

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Hon. Jaclyn A. Brillling, Secretary
Hon. Rudy Stegemoeller
Hon. Eleanor Stein
NYS Public Service Commission
Three Empire State Plaza
Albany, New York 12223-1350

Re: Case 07-M-0548 – Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard

Dear Secretary and Judges Stegemoeller and Stein:

The New York State Energy Research and Development Authority (NYSERDA) presents this preliminary letter report, entitled "New York State Agencies and Authorities Energy Efficiency Programs - Identification of State Agencies' and Authorities' Contribution to a 15% Reduction in Electricity Use by 2015" ("Report") and requests a determination from the Administrative Law Judges that it be accepted for filing in the above-referenced proceeding on behalf of a working collaborative of State agencies and authorities. The State agencies and authorities contributing to this effort directly administer energy efficiency programs and provide related services, including adoption of building codes and appliance standards, equipment procurement, and supporting and implementing related energy and environmental policies. This clean energy collaborative has inventoried its existing programs, assessed the potential for greater energy efficiency savings with additional funding, and is planning greater coordination of programs and services to further improve the efficiency and effectiveness of energy efficiency and related activities.

While this Report is focused on electricity reductions, many of the State's efficiency programs yield natural gas and other fuel savings as a by-product. The clean energy collaborative work will continue beyond this stage of its work and will include other fuel saving initiatives and monitor progress toward goals. A more detailed collaborative program plan will be developed as this work continues.

The Report provides an estimate of projected electricity savings that can reasonably be achieved to contribute toward the 15 by 15 program goal. The report highlights many of the best in class award winning energy efficiency programs currently offered by collaborative members, and includes planned updates to the State's building code and appliance efficiency standards to demonstrate the State's commitment to assisting the Public Service Commission, utilities, and other potential program administrators in meeting the Governor's 15 by 15 goal.

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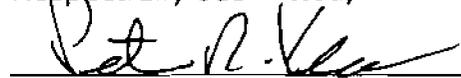
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These efforts are estimated to be able to deliver between 57-74% of the electricity reduction goal (*i.e.*, 8-11% out of the 15%) by 2015, and are dependent upon additional new funding being made available, including funding provided for the proposed State-administered fast-track programs. If the proposed funding for the fast-track programs is not provided to NYSERDA or the NYS Division of Housing and Community Renewal (DHCR) and instead these programs are funded at current levels through 2015 (*e.g.*, current SBC program funding is extended beyond 2011 to 2015), the State's contribution to the 15% goal would be 57% (*i.e.*, 8.6 % out of the 15%).

It should be noted that the State agencies and authorities recognize the important role that utilities and other potential program administrators must play in helping to meet this goal. Aggressive actions are needed now to begin planning for achievement of the Governor's initiative. It should also be noted that the funding for energy efficiency needed to reduce electricity use to achieve the 15 by 15 goal will be significantly less than the funding required over the same period to purchase electricity in the absence of energy efficiency. All of the energy efficiency programs comprising the portfolio of savings included in this Report are cost-effective, meaning that energy costs on total will be lower than otherwise would have been the case if these programs were not offered. Ultimately, these programs will save money, reduce harmful environmental pollutants, and create positive net gains in employment in the State.

Respectfully submitted,



New York State Energy Research and
Development Authority
By: Peter Keane

c: Active Party List (By Electronic Mail)

Attachment: *New York State Agencies and Authorities Energy Efficiency Programs - Identification of State Agencies' and Authorities' Contribution to a 15% Reduction in Electricity Use by 2015, dated November 30, 2007.*

New York State Agencies and Authorities Energy Efficiency Programs

Identification of State Agencies' and Authorities' Contribution to a 15% Reduction in Electricity Use by 2015

New York's State agencies and authorities implement a variety of energy efficiency programs that reduce energy use and costs while also meeting associated public policy objectives, such as protecting New York's natural resources, growing New York's economy, advancing emerging technologies, and supporting the energy and housing needs of New York's low-income population. Representatives from nine agencies and authorities have collaboratively shared information to identify the contribution that the State's agencies and authorities can make toward Governor Spitzer's goal of achieving a 15% reduction in electricity usage by 2015 compared to the projected level of electricity use for that year. These nine agencies and authorities are:

- New York State Energy Research and Development Authority (NYSERDA)
- New York Power Authority (NYPA)
- Long Island Power Authority (LIPA)
- New York Department of State (DOS)
- New York State Division of Housing and Community Renewal (DHCR) and Housing Trust Fund Corporation (HTFC)
- Dormitory Authority State of New York (DASNY)
- New York State Department of Environmental Conservation (DEC)
- New York State Foundation for Science, Technology and Innovation (NYSTAR)
- Office of General Services (OGS)

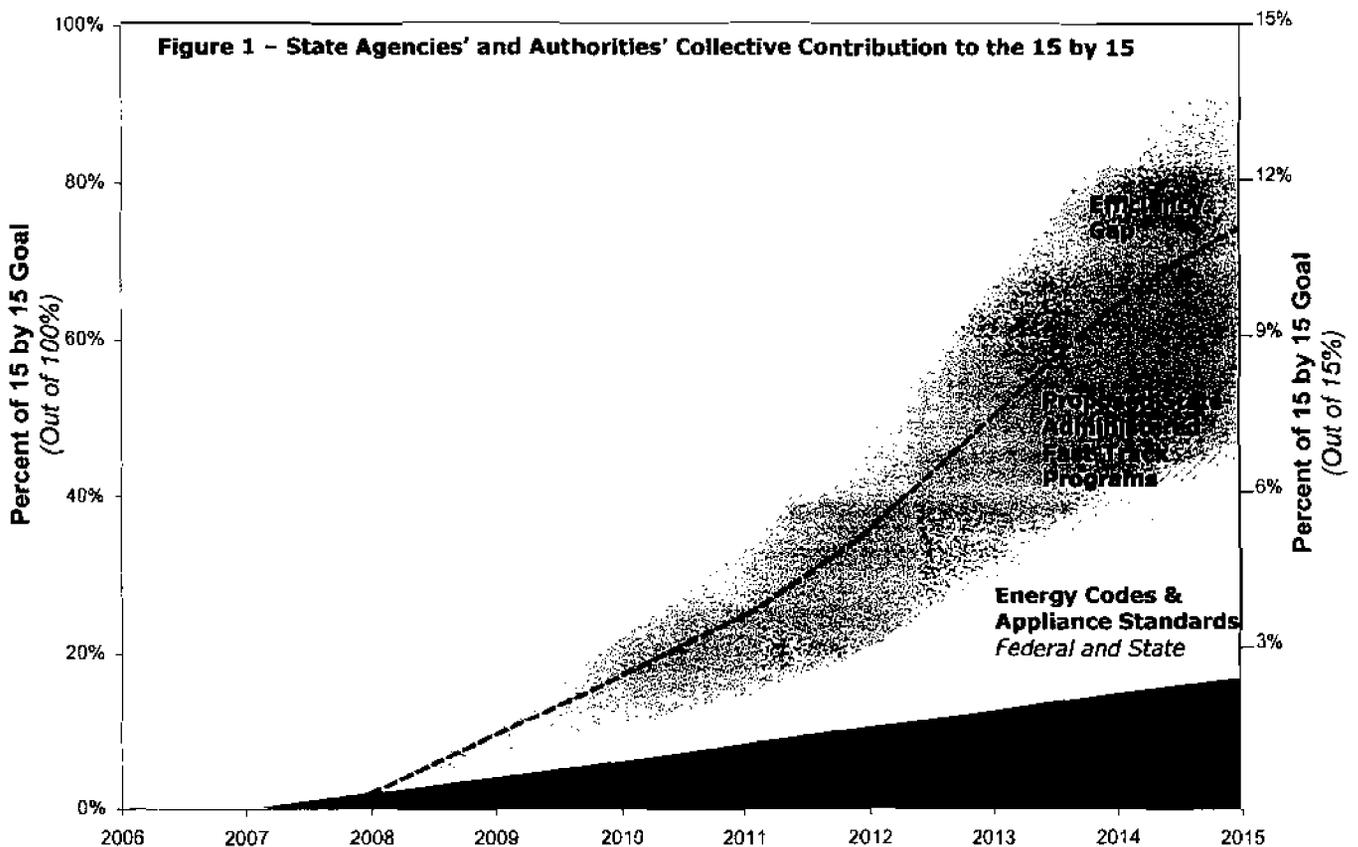
In addition to the efforts of the agencies and authorities listed above, the New York Public Service Commission (PSC) initiated the Energy Efficiency Portfolio Standard¹ (EPS) proceeding. The Department of Public Service (DPS) staff has submitted two proposals under this proceeding: (1) Staff Preliminary Proposal for Energy Efficiency Program Design and Delivery² and (2) Revised Proposal for Energy Efficiency Design and Delivery and Reply Comments of the Staff of the Department of Public Service³. NYSERDA has also submitted several documents in the proceeding, including a

¹ Case 07-M-0548, Proceeding on Motion of the Commission Regarding and Energy Efficiency Portfolio Standard, Order Instituting Proceeding (issued May 16, 2007).

² Case 07-M-0548, New York State Department of Public Service Staff Preliminary Proposal For Energy Efficiency Program Design and Delivery, dated August 28, 2007.

³ Case 07-M-0548, New York State Department of Public Service Revised Proposal for Energy Efficiency Design and Delivery and Reply Comments of the Staff of the Department of Public Service, dated November 26, 2007.

"white paper"⁴ and a specific proposal for fast-track programs⁵ that can deliver near immediate savings if additional funding were to be provided. Many of the State entities listed above have participated in the EPS working groups and while it is evident that both public and private entities must ultimately contribute to the 15 by 15 goal, the collaborative believes that quantification of public entity contributions will further inform the EPS proceeding. In this context, NYSERDA, in collaboration with the agencies and authorities listed above, presents Figure 1 as a preliminary estimate of the State's collective contribution to the 15 by 15 electric efficiency goal. Each colored area on the graph along with the associated metrics is discussed below. It should be noted that many of the State's energy efficiency programs are award-winning and nationally recognized as best in their class. A sampling of the various awards that the State's efficiency programs have received over the past five years is provided in Attachment A.



⁴ NYSERDA Energy Efficiency Portfolio Standard White Paper, dated September 10, 2007.

⁵ NYSERDA Response to Administrative Law Judges' Letter dated October 1, 2007 *Identification of Fast-Track Energy Efficiency Programs and Additional Funding and Savings Opportunities*, dated November 1, 2007.

The dark green area on Figure 1 reflects the impact of continued implementation of all existing State agency energy efficiency programs at their current 2007 funding levels and program allocations through the end of 2015 (e.g. renewal of SBC beyond current June 2011 expiration date). The area under the curve grows over the nine year period because the energy efficiency measures installed in any particular year continue to contribute savings in subsequent years for the lifetime of the installed measure. If these current programs are implemented at current funding levels for the next nine years, i.e., January 2007 through December 2015, they will deliver an estimated 13-20% of the efficiency goal (i.e., 2-3% out of the 15% reduction in electricity usage by 2015). Six state agencies and authorities, NYSERDA, NYPA, LIPA, DEC, DHCR and DASNY currently administer energy efficiency programs that contribute the energy savings depicted as the dark green area in Figure 1. Over the nine year period between 2007 and 2015 these programs will yield an estimated annual electricity savings of 4,740 GWh in 2015, if funded at current 2007 levels through 2015. The total nine year cost associated with these savings is estimated to be \$3,134 million⁶. If the programs were realigned to focus more directly on least cost efficiency resource acquisition, the savings would increase, but only at the expense of other public policy objectives being addressing by these programs.

For the purposes of measuring progress toward the 15 by 15 goal, a baseline of zero accumulated savings is set at year 2007 so that all energy savings credited to the 15 by 15 goal start accumulating from 2007 through 2015. In reality, many of the State programs have been operating for a number of years (e.g., SBC was initiated mid-year 1998) and the efficiency measures previously installed through these programs will continue to yield savings throughout each measure's expected life. NYPA, LIPA, and DHCR programs have been operating for years prior to initiation of the SBC program, and building codes have been in existence for almost 30 years. In addition, as efficiency measures reach their expected life, the cumulative annual savings will decrease or expire, accordingly. Thus, the establishment of a zero baseline in 2007 is a simplifying, but conservative assumption.

Codes and Standards

The yellow area in Figure 1 reflects the energy savings estimated to be achieved through aggressive updating and deployment of the New York State Energy Conservation Construction Code and appliance and equipment efficiency standards (as identified in Table 1). It is estimated that between 27-33% of the efficiency goal (i.e., 4-5% out of the 15% reduction in electricity use by 2015) can be achieved through codes and standards initiatives at minimal cost. Over the nine year period through 2015, that codes and standards will yield an estimated 8,250 GWh of annual electricity savings by 2015, with the majority of the savings being

⁶ Cost estimate includes incremental cost to improve efficiency of all current DASNY to meet US Green Building Council LEED Silver rating. After January 1, 2008, all DASNY new construction, significant renovation and addition will be on track for LEED Silver rating.

achieved by appliance standards. The total nine year cost associated with these savings is estimated to be \$22 million.

The projected 2015 energy savings due to energy code updates assumes three revisions to the code as follows: (1) the code update taking effect at the beginning of 2008; (2) the accelerated adoption of the ASHRAE 90.1-04 requirements into the energy code during 2008; and (3) a future update to the code in 2011 to adopt ASHRAE

90.1-2010, which is targeted to be 30% more efficient than ASHRAE 90.1-04. In addition, the assumed compliance rate with the new energy codes would average about 90%, with lower compliance rates assumed for the early years of each adoption cycle. Nonetheless, the State will work closely with local officials to seek 100 percent compliance with the code. The proposed appliance standards and the date of adoption are listed in Table 1. The appliance standard estimates are generally based on national figures pro-rated to New York State based on population and include assumptions on the size of the baseline market adjusted for products already meeting the standard, the incremental energy savings, and the annual rate of equipment replacement.⁷

Table 1

Appliance Standards	Effective Date
Current NYS Products	
Incandescent Reflector Lamps	2009
Metal Halide Lamp Fixtures	2009
External Power Supplies	2009
Consumer Audio and Video Products (DTAs, DVDs, TVs, Compact Audio)	2009
Federal Updates	
Residential Refrigerators	2014
Distribution Transformers	2011
Fluorescent Ballasts	2014
Fluorescent Lamps	2012
Incandescent Reflector Lamps	2012
Supermarket Refrigeration	2012
New NYS Opportunities	
Bottle-type water dispensers	2009
Commercial hot food holding cabinets	2009
Portable electric spas (hot tubs)	2009
Walk-in refrigerators and freezers	2009
Furnace fans	2009
Light bulbs (screw-in socket based lighting)	2012

⁷ For light bulbs, which account for the majority of the savings, estimates are based on information from Patterns and Trends: New York State Energy Profiles 1991-2005, 2005 (NYS electricity use), E-Source Technology Atlas Series- Volume I Lighting, 2005 (sector lighting energy use), the US DOE Lighting Market Characterization, Volume 1, 2002 (lamp inventory information), the "California Lamp Report 2003" by Itron (national sales information), a 10% market penetration of compact fluorescent lamps, a 1-year product life, and the draft standards language in the House Energy Bill as of August 9, 2007. For the remaining products, estimates and assumptions come from 1) "Leading the Way: Continued Opportunities for New State Appliance and Equipment Efficiency Standards", March 2006 by ACEEE and ASAP (Steve Nadel et al.), 2) "Incandescent Reflector Lamps Study of Proposed Energy Efficiency Standards for New York State", July 2006, by the Lighting Research Center (Peter M. Morante), 3) "Metal Halide Lamp Fixture Proposed Energy Efficiency Standards for New York", July 2006 by the Lighting Research Center (Peter M. Morante), 4) "NYSERDA Appliance Standards Advisory Committee Presentation External Power Supplies", December 2006, by Ecos Consulting (Suzanne Foster Porter), 5) "NYSERDA Appliance Standards Advisory Committee Presentation Consumer Audio and Video Products-DTAs", December 2006, by Cadmus (Dave Beavers), and 6) "NYSERDA Appliance

The hatched area between the yellow and light green areas of the curve shown in Figure 1, depicted as 0.5% out of the 15%, represents this hypothetical area of trade-off between acquiring efficiency resources in the near-term and the lost opportunity from having higher codes and standards in place at the time of the resource acquisition. For example, if a supermarket refrigerator is installed in 2008, it will provide four years of energy savings before the improved supermarket refrigeration standards are adopted in 2012, but the 2008 installation is a lost opportunity to install supermarket refrigeration at the new higher efficiency standard in 2012 because supermarket refrigeration has a life cycle that is longer than four years. In effect, some of the less expensive energy savings from codes and standards may be lost to the planned aggressive acquisition of resources needed to achieve the 15 by 15 goal. Early aggressive pursuit of updated codes and standards and persistent enforcement of the codes is an economical means of contributing to the State's efficiency goals.

Proposed State-Administered Fast-Track Programs

The light green area below the dotted line in Figure 1 represents the energy savings that can be achieved by allocating additional funding to proposed fast-track programs in July 2008 and maintaining that funding through 2015. These fast-track resource acquisition and market transformation program savings can be achieved through existing programs that can be readily expanded, upon the allocation of additional funding through the EPS (or in the case of LIPA and NYPA, with new Board approved funding), to deliver significant energy savings in the near term. Installed efficiency measures continue to produce energy savings over the life of the measure, so by "fast-tracking" programs, the State maximizes its opportunity to accumulate energy savings toward the 15% savings goal. As shown in Figure 1, significant and early efficiency gains can be achieved by maximizing the use of existing programs. An estimated 27-40% of the efficiency goal (*i.e.*, 4-6% out of the 15% reduction in electricity usage by 2015) can be achieved by the fast-track programs.

Four state agencies and authorities, NYSERDA, NYPA, LIPA, and DHCR have projected that they can expand their energy efficiency programs and contribute the increased energy savings depicted as the light green area below the dotted line in the Figure 1 graph. It is estimated that the four agencies can produce a cumulative annual electricity savings of 7,380 GWh in 2015. The assumed start date for the accumulation of the savings varies for each agency depending upon the date when new funding might be available. The total multi-year cost associated with these savings is estimated to be \$3,114 million.

The projected energy savings from the fast-track programs includes agency-specific implementation lag factors and a general 10% reduction in the energy savings to address inter-agency overlaps that occur as a result of agency collaboration on

Standards Advisory Committee Presentation Consumer Audio and Video Products-Compact Audio Products, DVD Players and Recorders, and TVs", December 2006, by Cadmus (Dave Beavers).

energy efficiency projects – leading to a conservative estimate of savings. Other major assumptions include access to all energy users in all regions of the State, the removal of incentive caps for large commercial and industrial projects, and funding of marketing and market development campaigns across the State to inform energy users of the need to conserve and the availability of programs that can provide assistance.

The Efficiency Gap (Above the Dotted Line)

The light green area above the dotted line in Figure 1, the “efficiency gap,” represents the portion of the 15 by 15 electricity reduction goal for which there is no specific acquisition plan. The State agencies and authorities see the utilities and potential other program administrators as playing an important role in closing this “efficiency gap.” Ultimately, the 15 by 15 goal will be achieved through the efforts of a large collaborative of both private and public entities working together to plan and implement energy efficiency programs. In this context, it should be noted that the State agencies and authorities continue to research and evaluate additional energy saving program ideas and initiatives that could be implemented to support the 15 by 15 electricity goal and will be prepared to offer them up for discussion, if called upon to do so.

Summary

The Clean Energy Collaborative of New York State agencies and authorities has compiled the information in this document in demonstration of the State’s seriousness and its ability and willingness to meet an estimated 74% of the electricity savings needed to achieve the 15% reduction in electricity use by 2015 (*i.e.*, 11% out of the 15%). The estimated nine year cost to achieve this electricity savings is \$6,270 million, with a \$2,100 million⁸ allocation needed from the EPS proceeding to implement the proposed fast-track programs from June 2008 through December 2015. The State’s agencies and authorities have many award-winning programs already in place that can be readily expanded to serve the Governor’s energy goal. In addition, the Clean Energy Collaborative stands ready to undertake planning and implementation of new initiatives to close the “efficiency gap.”

⁸ Additional funding for NYSERDA and DHCR fast-track programs from July 2008 through December 2015.

Attachment A

New York State Award-Winning Energy Efficiency Programs

LIPA

Residential Lighting and Appliance (RLA) Program

- 2000, 2001, 2002, 2003, 2004 & 2005 "NEEP ENERGY STAR® Award – Excellence in Energy Efficiency"
- 2006 "NEEP ENERGY STAR® Award – Sustained Excellence in Energy Efficiency Program Delivery"
- 2006 Environmental Protection Agency (EPA) "Excellence in ENERGY STAR® Promotion" Award
- 2006 ACEEE "Exemplary Program Design Award" (NEEP Initiative)

Cool Homes Program

- 2006 ACEEE "Exemplary Program"

New York ENERGY STAR® Labeled Homes (NYESLH) Program

- 2005 Long Island Builders Institute (LIBI) Associate Appreciation Award
- 2006 ACEEE *Honorable Mention – Exemplary Program Design*

Solar Pioneer Program

- 2003 Green Power Leadership Award for LIPA/FALA Direct Marketing PV System

Commercial Construction Program (CCP) Program

- NEEP Business Leader Recognition Award – King Kullen
- 2006 ACEEE "Honorable Mention for an Exemplary Program"

LIPAEdge Program

- 2007 Peak Load Management Alliance (PLMA) Award: Innovative Application of Technology

DOS

- 2002 DOE "Best of Show Award" for the New York Codes Division Interactive CD Disk Tool

DEC – (Project Award)

- 2002 U.S. Green Building Council LEED Certification for DEC Office Complex at 625 Broadway in Albany

DASNY – (Project Award)

- EPA "ENERGY STAR® Award" for DASNY Office at 515 Broadway
- 2007 LEED Certification for Two Dormitories at SUNY Binghamton

NYPA – (Project Award)

- 2006 Gold LEED Certification for NYPA headquarters in White Plains.

NYSERDA

Organization Awards

- 2006 and 2007 EPA and DOE "ENERGY STAR® Award for Sustained Excellence"
- 2005 USGBC (US Green Building Council) Leadership Award in the LEED (Leadership in Energy and Environmental Design) category.
- 2005 EPA and DOE "ENERGY STAR® Award for Corporate Commitment"
- 2004 EPA and DOE "ENERGY STAR® Award for Excellence in Education Efforts within New York ENERGY STAR® New and Existing Home Program"
- 2002 Peak Load Management Alliance, "Performance Recognition Award"

Commercial/Industrial Performance Program (CIPP)

- 2006 National Association of Energy Service Professionals "First Place in Achievement in Energy Services" Award.

- 2003 ACEEE "Exemplary Energy Efficiency Program"

Peak Load Reduction Program

- 2006 National Peak Load Management Alliance in Washington DC "Outstanding Program Outreach" Award.

National Lighting Product Information Program

- 2006 EPA "Environmental Quality Award"

Keep Cool Program

- 2004 California Public Utilities Commission, California Energy Commission and public utilities in the State of California "Best Practices Benchmarking for Energy Efficiency Programs"
- 2003 ACEEE "Exemplary Energy Efficiency Program"

Flex Tech Program

- 2003 and 2007 ACEEE "Exemplary Energy Efficiency Program"
- 2003 ACEEE "Certificate of Recognition for Exemplary Natural Gas Efficiency Program"

Energy Smart Schools Program

- 2007 ACEEE "Exemplary Energy Efficiency Program"
- 2006 National Energy Education Development Project "State of the Year Award"

School Power...Naturally Program

- 2006 Interstate Renewable Energy Council's "Innovation Award"

Small Commercial Lighting Program

- 2007 ACEEE "Exemplary Energy Efficiency Program"

EmPower New York

- 2003 and 2007 ACEEE "Exemplary Energy Efficiency Program"
- 2003 ACEEE "Exemplary Energy Efficiency Program Honorable Mention"

ENERGY STAR Products Program

- 2007 ACEEE Exemplary Energy Efficiency Program

New York Energy Smart Multifamily Performance Program

- 2007 ACEEE "Exemplary Energy Efficiency Program"
- 2003 ACEEE "Exemplary Energy Efficiency Program Honorable Mention"

Home Performance with ENERGY STAR® Program

- 2002 and 2003 DOE and EPA "ENERGY STAR® Award for Excellence in Home Improvement"
- 2003 ACEEE "Exemplary Energy Efficiency Program Honorable Mention"
- 2003 AESP "Achievement in Energy Services Award Honorable Mention"

New York ENERGY STAR® Homes Program

- 2004, 2005, 2006 and 2007 EPA "ENERGY STAR for Homes Outstanding Achievement Award"

Residential Marketing Program

- 2007 Blingy Award - Recognized our partner, PBS, for a television production "Home Symptoms and Building Science"
- 2007 - MarCom Award for video entitled *High Performance Buildings- Changing the Way We Build* - Platinum award in the Direct Mail category and a Gold award in the Video/Film category
- 2006 Publicity Club of New England Bell Ringer Award - Honor excellence and achievement in the communications and public relations professions, Regional News Release category for Heating Tips Release
- 2006 Telly Award - Recognized "The Quiet Revolution" residential documentary
- 2005 TV Access Top Ten Award - Recognized "Super Powers" PSA for being in the top 10% of television PSA's based on Nielson Ratings

- 2005 Communicator Awards - Video Competition, "Super Powers" PSA
- 2005 CINE Golden Eagle Award - Recognized for "Super Powers" PSA
- 2005 Public Relations Society of America (PRSA) - Bronze Anvil Awards in public relations efforts. "Super Powers" PSA
- 2004 Michael C. Thompson Award - Residential Energy Efficiency Programs Visionary Leaders
- 2004 Public Relations Society of America (PRSA) - Totem Award ENERGY STAR® awareness TV ads "New Pet" and "Science Fair", both, were chosen from over 10,000 entries from around the world
- 2003 Emmy Award - Recognized "New Pet" as a local PSA
- 2003 Adcritic.com's Spot of the Day - First Place honors for "New Pet" ENERGY STAR® awareness TV ad
- 2003 Communication Arts - First Place honors for "New Pet" ENERGY STAR® awareness TV ad
- 2002 CBS-TV "World's Greatest TV Commercials"- Second Place, "Static Electric House" in partnership with the Alliance to Save Energy
- 2002 One Show Merit Award - "Static Electric House" in partnership with the Alliance to Save Energy
- 2002 Public Relations Society of America (PRSA) - Bronze Anvil Awards "Static Electric House" in partnership with the Alliance to Save Energy