

New York State Energy Research and Development Authority

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# NYSERDA's Energy Efficiency Portfolio Standard Program

Quarterly Report to the Public Service Commission

Quarter Ending September 30, 2013

November 14, 2013



# NYSERDA's Promise to New Yorkers:

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

**Our Mission:** Advance innovative energy solutions in ways that improve New York's economy and environment.

**Our Vision:** Serve as a catalyst—advancing energy innovation and technology, transforming New York's economy, empowering people to choose clean and efficient energy as part of their everyday lives.

**Our Core Values:** Objectivity, integrity, public service, partnership, and innovation.

## Our Portfolios

NYSERDA programs are organized into five portfolios, each representing a complementary group of offerings with common areas of energy-related focus and objectives.

### Energy Efficiency and Renewable Energy Deployment

Helping New York State to achieve its aggressive energy efficiency and renewable energy goals – including programs to motivate increased efficiency in energy consumption by consumers (residential, commercial, municipal, institutional, industrial, and transportation), to increase production by renewable power suppliers, to support market transformation, and to provide financing.

### Energy Technology Innovation and Business Development

Helping to stimulate a vibrant innovation ecosystem and a clean-energy economy in New York State— including programs to support product research, development, and demonstrations; clean-energy business development; and the knowledge-based community at the Saratoga Technology + Energy Park®(STEP®).

### Energy Education and Workforce Development

Helping to build a generation of New Yorkers ready to lead and work in a clean energy economy – including consumer behavior, youth education, workforce development, and training programs for existing and emerging technologies.

### Energy and the Environment

Helping to assess and mitigate the environmental impacts of energy production and use in New York State – including environmental research and development, regional initiatives to improve environmental sustainability, and West Valley Site Management.

### Energy Data, Planning and Policy

Helping to ensure that New York State policymakers and consumers have objective and reliable information to make informed energy decisions – including State Energy Planning, policy analysis to support the Regional Greenhouse Gas Initiative and other energy initiatives, emergency preparedness, and a range of energy data reporting.

# **NYSERDA's Energy Efficiency Portfolio Standard Program**

*Final Report*

**Quarterly Report to the Public Service Commission**

**Quarter Ending September 30, 2013**

Prepared by:

**New York State Energy Research and Development Authority**

November 14, 2013

# NYSERDA Record of Revision

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<b>Document Title</b>
Energy Efficiency Portfolio Standard Program Quarterly Report To The Public Service Commission Quarter Ending September 30, 2013

<b>Revision Date</b>	<b>Revision Description</b>	<b>Revision Number</b>
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# 1 Introduction

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This quarterly report reflects progress on Energy Efficiency Portfolio Standard (EEPS) Program evaluation activities administered by the New York State Energy Research and Development Authority (NYSERDA). This report contains summaries of recently-completed evaluations and updates on evaluation recommendations and status through September 30, 2013. Information contained within this report comports with the guidance received from the New York State Department of Public Service (DPS) and discussed by the EEPS Evaluation Advisory Group (EAG) in July 2012.

## 2 Evaluation Reports Completed

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No new evaluation studies were completed in the third quarter of 2013. Future quarterly reports will list and summarize studies as they are finalized.

### 3 Evaluation Status Update

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Table 3-1 and Table 3-2 provide the anticipated schedule and status of current and upcoming impact, process, and market evaluation activities by program. As applicable, table notes provide further clarification and information about study timing.<sup>1</sup> Planned evaluation projects and timing may change based on input from internal and external stakeholders, and program progress. Likewise, evaluation project schedules are subject to change based on progress in administering the evaluation studies themselves. Future quarterly reports will highlight any timeline revisions. Timeline revisions made this quarter are designated by cell shading.

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<sup>1</sup> For purposes of these tables, “PY” denotes “program years” and “Q” denotes “quarter.”



**Table 3-1. Impact Evaluation Schedule and Status**

EEPS Program	Impact Evaluation Schedule					
	Detailed Evaluation Plan Submittal	Project Kick-off	Data Collection Complete	Draft Report	Final Report	Notes
Industrial & Process Efficiency (Phase 2)	Completed	Q2 - 2013	Q3/4 - 2013	Q2 - 2014	Q3 - 2014	Pre-installation evaluation advisement is ongoing. Summer metering in process. Draft work plan being readied for review.
Existing Facilities	Late 2013	TBD	TBD	TBD	Late 2014	Detailed evaluation plan in development
Agriculture	Late 2013	TBD	TBD	TBD	Late 2014	Evaluation planning underway.
New Construction	Completed	Q2 - 2013	TBD	TBD	TBD	Draft work plan being readied for review.
Agriculture Disaster	Completed	Q2 - 2013	Q3/4 - 2014	Q1 - 2014	Q1 - 2014	Work plan approved. Site recruitment in process.
Flex Tech	Completed	TBD	TBD	TBD	2015	Work plan development is beginning. Benchmarking (see Table 3-2).
Non-Participant Spillover Study	Completed	Completed	Completed	Completed	Q4 2013	Draft report with DPS for review and comment.

**Table 3-1 continued**

EEPS Program	Impact Evaluation Schedule					
	Detailed Evaluation Plan Submittal	Project Kick-off	Data Collection Complete	Draft Report	Final Report	Notes
Multifamily Performance Program	Completed	Q2 - 2013	Q2/3 - 2013	Q4 - 2013	Q1 - 2014	Data collection in process.
Point of Sale Lighting	Completed	Q3 - 2012	Q3 - 2013	Q4 - 2013	Q1 - 2014	Preliminary results from several primary data collection efforts were submitted at the end of Q2 2013. Data collection is complete and analysis and report writing are underway.
EmPower New York	Completed	Phase 2 Q3 - 2013	Phase 2 TBD	Phase 2 TBD	Phase 2 TBD	Phase 1 billing analysis completed – draft results memo issued and in review. Phase 2 draft work plan being reviewed.
Home Performance with ENERGY STAR®	Completed	Phase 2 Q3 - 2013	Phase 2 TBD	Phase 2 TBD	Phase 2 TBD	Phase 1 billing analysis completed – draft results memo issued and in review. Phase 2 draft work plan in development.
New York ENERGY STAR® Homes	Q4 - 2013	TBD	TBD	TBD	Q4 - 2014	Previous impact evaluation of PY 2007 - 2008 completed in September 2012.

**Table 3-2. Process and Market Evaluation Schedule and Status**

EEPS Program	Process and Market Evaluation Schedule					
	Detailed Evaluation Plan Submittal	Project Kick-off	Data Collection Complete	Draft Report	Final Report	Notes
Existing Facilities	Late 2013	TBD	TBD	TBD	2015	Last process evaluation completed in February 2012. Last market evaluation completed in September 2012.
Agriculture	Q4-2013	TBD	TBD	TBD	2016	Now expected to be a separate evaluation from Existing Facilities.
New Construction	Completed	Q1 - 2013	Q3 - 2013	Q4 - 2013	Q1 - 2014	Work plan and surveys approved and in progress. Market characterization data analysis underway.
Agriculture Disaster	Q4 - 2011	Q4 - 2011	Q3 - 2012	Q3 - 2012	Q3 - 2012	Previous evaluation completed in October 2012. No other evaluations planned or required.
FlexTech	Completed	Q2 - 2013	Q4 - 2013	Q1 - 2014	Q2 - 2014	Last market evaluation completed in August 2011. Study planned in 2012-2014 is a process evaluation only. Benchmarking will be included in the FlexTech evaluation.

**Table 3-2 continued**

EEPS Program	Process and Market Evaluation Schedule					
	Detailed Evaluation Plan Submittal	Project Kick-off	Data Collection Complete	Draft Report	Final Report	Notes
Multifamily Performance Program	Completed	Q1 - 2013	Q4 - 2013	Q1 - 2014	Q2 - 2014	Work plan approved, data collection underway.
Point of Sale Lighting	Completed	Q3 - 2012	Q3 - 2013	Q4 - 2013	Q1 - 2014	Preliminary results from several primary data collection efforts were submitted at the end of Q2 2013. Data collection is complete and analysis and report writing are underway.
EmPower New York	Completed	TBD	TBD	TBD	TBD	Last process evaluation completed in July 2010.
Home Performance with ENERGY STAR®	Completed	Q2 -2013	Q3-2014	Q3 - 2014	Q4 - 2014	
New York ENERGY STAR® Homes	Q4 - 2013	TBD	TBD	TBD	2015	
C&I Natural Gas Market Characterization	Completed	Completed	Completed	Q2 - 2012	Q3 - 2012	

### **3.1 New Recommendations**

No new evaluation studies were completed in the third quarter of 2013. Future quarterly reports will present the recommendations generated from finalized studies and characterize them as rejected, implemented, or pending based on input from NYSERDA program implementation and evaluation staff.

## 4 Pending Recommendations

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Recommendations from previous evaluations that have not yet been characterized as implemented or rejected in prior reporting are listed, by program, in **Table 4-1** through **Table 4-7**. These tables also provide NYSERDA program staff's response and rationale for the characterization. Note this section does not cover all EEPS programs that NYSERDA administers; only programs with recommendations not previously reported as implemented or rejected are included in these tables.

**Table 4-1. Pending Recommendations: Existing Facilities Program**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Existing Facilities Program (EFP)</b>			
Megdal and Associates Impact Evaluation Team, Energy and Resource Solutions Lead Investigators, September 2012	Apply a common algorithm for tracking demand savings – The high variance in the peak demand savings realized by EFP stems from inconsistencies in algorithms and requirements regarding peak demand calculations. Evaluators recommend that program staff consider requiring that peak demand be calculated in a consistent fashion across projects. Tracking demand savings using algorithms similar to those applied in the evaluation would ensure more consistent peak demand realization rates (RRs) in future evaluations.	Pending	EFP is currently working to update its methodology for calculating peak demand impacts to be consistent with algorithms used in this impact evaluation and to be in compliance with the Technical Manual. Once a new methodology is developed, EFP staff and technical reviewers will be trained on its consistent use.
	Incorporate heating, ventilation, and air conditioning (HVAC) into lighting analysis – The evaluation results showed that the heating and cooling effects of reduced lighting load and run-time hours can be significant, especially in facilities such as data centers with high cooling loads. Such interactive effects were not consistently incorporated into program savings analysis. Evaluators recommend that EFP consider including these impacts in future project savings estimates. The choice to do so for tracking purposes does not necessarily mean that the same choice must be made for the purposes of demand-based incentive calculations.	Pending, with modifications	The determination of site-specific interactive effects of lighting with HVAC systems is both time and resource intensive relative to its accuracy and resulting effect on program-reported impacts. Program staff proposes working with Evaluation staff to develop a methodology for applying an adjustment for interactive effects between lighting and HVAC as part of future impact analysis.

**Table 4-1 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Existing Facilities Program (EFP)</b>			
	<p>Set up a data request mechanism from responsible interface parties (RIPs) for future demand response (DR) evaluations – Acquiring the DR measure data was challenging and required a lot of calendar time and an unexpected level of “volunteer” work by RIPs. It likely would save effort for all if NYSERDA could persuade the RIPs to deliver to NYSERDA the same baseline and performance data they deliver to the New York Independent Systems Operator (NYISO) at the time they send it to the NYISO. Alternately, evaluators and program staff could work with RIPs to establish a different data set and template for routine delivery.</p>	<p>Pending, with modifications</p>	<p>Program staff believes that requiring all incentive recipients to submit DR data routinely would be detrimental to program participation, as the data are sensitive. However, EFP will incorporate into the program language an agreement stating that participants will comply with NYSERDA’s request for event and test performance data if their project is selected in an evaluation sample. Program staff also propose to work together with Evaluation Staff and contractors earlier in the impact evaluation development to secure the data needed directly from participating DR providers.</p>
	<p>Create and track premise identifiers (IDs) – During the evaluator’s population frame development process, time was required to manually screen the population for recent marketing department, FlexTech impact evaluation, process evaluation, and market characterization research contacts with EFP representatives, to check for multiple staged projects at a single site and to identify multi-site projects. Site names, addresses, and contact names were used in lieu of a common premise identifier. While this was a manageable exercise for the Phase 1 population size of 70 projects, the exercise will be more daunting as the program expands in the future. To help evaluators and likely aid program administrators as well, evaluators recommend that NYSERDA establish unique premise IDs that are constant across programs and that remain constant for a facility in the event of name changes or other turnover. The use of premise IDs is not uncommon in the utility environment, whereby a portion of each customer’s account number can be the unique premise ID number, and the suffix of the number is the only thing that changes with alterations in account ownership. It is conceivable that NYSERDA could use the utility companies’ premise IDs.</p>	<p>Pending</p>	<p>NYSERDA is developing methods to provide this type of tracking.</p>



**Table 4-1 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Existing Facilities Program (EFP)</b>			
	<p>Aggressively involve the program staff in site recruitment – Recruitment for participation in evaluation activities was more difficult for EFP than for other NYSERDA C&amp;I impact evaluations (FlexTech, Industrial and Process Efficiency, New Construction). Including 10% to 20% backups from the non-census strata in the initial recruitment will help eliminate the late scramble to recruit the backup sites and increase the evaluation participation rate.</p>	Pending	<p>Program staff has requested to be involved early in the process of site recruitment and they will be provided a list of the projects that are in the sample as soon as it is available.</p>
	<p>Use a 0.50 error ratio in the next sample design – The sample design for this evaluation assumed an error ratio of 0.50 on the electric energy savings realization rate (RR). The final calculated error ratios were 0.58 Downstate, 0.46 Upstate, and 0.49 overall. The error ratio on the permanent demand savings RRs was 0.58 for the same projects. Presuming energy savings remains the primary focus and basis of sample designs, 0.50 is a valid assumption to use for electric projects.</p>	Pending	<p>When the next evaluation plan is being developed, the 0.50 error ratio will be included.</p>
	<p>Use the average coincident load (ACL) method to estimate the kW reduction for the DR component - The average peak monthly demand (APMD)-baseline method overstates DR, and the profile-baseline method is expensive and requires a great deal of vendor cooperation to execute. The ACL-baseline approach, while not a direct measurement of response, is almost as easy to execute as the APMD-baseline method and correlates reasonably well with actual DR indicated by the profile-baseline method and thus is a good compromise. The NYISO Installed Capacity/Special Case Resources (ICAP/SCR) Program also uses the ACL-baseline method.</p>	Implemented	<p>The Existing Facilities DR component is now a Technology &amp; Market Development (T&amp;MD) program. The evaluation recommendation will be forwarded to the T&amp;MD impact evaluation team, now under contract.</p>

**Table 4-1 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Existing Facilities Program (EFP)</b>			
	<p>Investigate and develop a more reliable method for the estimation of participant inside spillover (ISO) and outside spillover (OSO) for energy efficiency and OSO for demand response - The spillover (SO) rates derived in this evaluation use the same method and survey questions as those in past evaluations. The final ISO and OSO estimates end up being based upon a small number of respondents (after dropping those that report no OSO). The net-to-gross ratio (NTGR) can have a substantial effect on net savings and additional evaluation efforts are needed to reduce the uncertainty in many of its components, particularly in measuring spillover.</p> <p>Surveys used to gather data for SO estimation need to include SO-respondent quotas when possible. Additional validity checks need to be included regarding items that act as multipliers within the calculation formulas.</p>	Pending	<p>As with other programs, an expanded method will be used to investigate and quantify all types of spillover. The spillover investigation will begin with the identification of causal mechanisms in logic models or other program design sources. Enhanced methods will be utilized to verify reported spillover, including a large number of telephone surveys in 2014 with participating and nonparticipating customers and vendors, and follow up on-site verification for the largest spillover projects reported, presuming the on-site follow-up approach succeeds in impact evaluations being conducted in 2013. The SO samples will be designed to be sufficient to support required confidence and precision levels for estimates of net savings.</p>
	<p>Perform SO estimation work within a design that gives full consideration to conducting related market effects studies and follow-up verification studies for SO surveys - This may mean a timeline with staging of different research elements relating to participant ISO, participating vendor SO, and nonparticipant spillover (NPSO), all within a context of market change and program-induced market effects. Significantly more resources will be needed to conduct this level of research into SO and market effects.</p>	Pending	<p>The Impact and Process/Market Evaluation teams will closely coordinate efforts to ensure efficient and comprehensive coverage of researchable questions.</p>
	<p>Investigate alternative methods for estimating free ridership (FR) – The Program has recently initiated a more concentrated approach to fostering lasting relationships with large key account customers. Consequently, future evaluations could benefit from research into other potential methods for determining FR that better consider program long-term engagement with key account customers.</p>	Pending	<p>The Impact Evaluation Team will investigate methods used in other jurisdictions that provide credit for long-term program influence caused, in part by relationships with large key account customers. Such methods, if warranted, will be used where long-term program influence is relevant.</p>

**Table 4-1 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Existing Facilities Program (EFP)</b>			
<p>Navigant Consulting, Existing Facilities Program: Market Characterization and Assessment Summary, June 2012</p>	<p>Seek to increase the number of quality firms engaging end users in performance-based EFP projects. In so doing, the program can drive additional competition among firms working on performance-based projects, potentially leading to higher project volumes, lower costs to end users, or new competitive offerings from service providers (e.g., new approaches to project financing).</p>	<p>Pending</p>	<p>NYSERDA's 2013 marketing plans will include a targeted effort directed to participating and non-participating service providers to increase participation among end use customers.</p> <p>Program staff has developed a prioritized list of energy services companies (ESCOs) and an ESCO relations role has been developed. Staff has begun the process of meeting regularly with priority ESCO participants to discuss how to increase performance-based work between EFP and the ESCO, and how EFP's design and procedures can be optimized.</p>
	<p>Convince new firms to learn about and undertake projects supported by performance-based incentives by marketing the program's perceived benefits to service providers. Specifically, program participation is an indicator of a firm's advanced capabilities, commitment to maximizing energy savings, and overall higher-quality services. An anticipated increase in demand for high-quality energy efficiency services will create particular opportunities for firms with past performance-based project experience while attracting new firms to attempt performance-based projects.</p>	<p>Pending</p>	<p>NYSERDA's 2013 marketing effort will reflect a research-based approach to identifying and highlighting relevant value messages that increase levels of engagement and interest in NYSERDA performance-based programs among service providers.</p> <p>Among the prioritized list of ESCOs developed by program staff, some have participated in the program in the past, but are currently not active within EFP and some have never participated. An effort has begun to engage these ESCOs and grow the service provider market.</p>

**Table 4-1 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Existing Facilities Program (EFP)</b>			
	<p>Adopt a targeted, two-fold approach to increasing performance-based energy savings.</p> <p>(1) Seek organic growth opportunities by marketing additional performance-based projects to facility owners who have previously completed such projects (most of which involved only a single energy-use system).</p> <p>(2) Capture a portion of small-scale projects being planned by non-participants and convert them to larger, performance-based projects. This will enable EFP staff to capitalize on that portion of the market with at least some awareness of and willingness to pay for efficiency upgrades.</p>	Implemented	<p>Project data has been mined to identify past participants who could benefit from a performance-based approach to energy savings. Marketing efforts targeted specific verticals to increase program participation in subsectors that demonstrate great potential in terms of energy savings through performance-based projects. In addition, EFP staff has implemented a key accounts approach to the market, in order to develop long-term relationships with large customers, thereby helping to identify potential project opportunities; and thus integrating with customers' long-term planning for energy efficiency and bundle multi-year capital improvements.</p> <p>As part of the key accounts approach, EFP staff works with existing customers to identify additional potential project opportunities, focusing on system improvements. EFP staff will continue to work with participants to ensure pre-qualified projects are converted into performance-based projects where possible.</p>

**Table 4-1 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Existing Facilities Program (EFP)</b>			
<p>Research Into Action, Process Evaluation, February 2012</p>	<p>Focus on providing incentive application status updates to service providers most affected by processing delays. Consider providing automated project status updates to free up program staff resources for other purposes. Support service providers by publicizing the typical length of time for each stage of NYSERDA review.</p>	<p>Pending</p>	<p>NYSERDA is currently integrating its database systems and revising its business process. The new system is planned to include enhanced workflow and applicant communications that will allow service providers access to project status and automate communications at key business process tollgates. To better manage the expectations of its customers and service providers, NYSERDA is also developing:</p> <ul style="list-style-type: none"> <li>-A description of the EFP verification process at each toll gate: Energy Analysis Review, which includes the pre-installation inspection, Project Installation Review and Measurement and Verification (M&amp;V)</li> <li>-A one-page pictorial summary of the verification process that includes a description of deliverables and an estimated timeframe for each toll gate review</li> <li>-These one-page descriptions will be reviewed by Marketing, attached to each contract, handed out at kick-off meetings, and posted on the EFP website.</li> </ul>

**Table 4-2. Pending Recommendations: New Construction Program**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>New Construction Program (NCP)</b>			
Megdal & Associates – Led by Cx Associates, New Construction Program, Impact Evaluation Report for Program Years 2007 – 2008, September 2012	For projects and measures with large savings, consider including more rigorous commissioning and validation protocols.	Pending (Investigate options for expanded measurement and verification M&V and/or retro/Cx incentives)	Commissioning is currently required for all projects with incentives of \$100,000 or greater. Customers may choose the commissioning provider of their choice. Within the context of current budgets and total source cost TRC requirements, NCP will investigate options for expanded M&V and/or retro-commissioning incentives as part of program delivery. For larger projects NCP is reviewing the possibility of engaging the impact evaluation contractor in technical assistance discussion regarding energy modeling baselines.
	The Impact Evaluation Team requests NYSERDA’s support in enabling the evaluators to work with building management to obtain access to residential units and resident utility releases. This support will increase the effectiveness of the outreach effort, control evaluation costs, and reduce the elapsed time for obtaining this information.	Pending	Review of recent program participants indicates that multi-family projects continue to participate in the NCP. As the next round of impact evaluation proceeds the team will work to address this issue.
	Consider conducting a market effects study for the NCP and NYSERDA’s overall impact on the commercial, industrial and institutional new construction markets in New York. The market effects methods need to attempt to include NCP impacts on market structure and operation that may not be directly identifiable by most market participants but influences the operation of the market since NCP interventions. If SO estimation still occurs or is used, future evaluations must ensure that there is not a double counting or overestimation between market effects and SO.  Significantly more resources will be needed to conduct an evaluation that provides reliable and rigorous estimates of market effects.	Pending	The completed detailed evaluation plan includes a possible market effects study in 2015. When the slated spillover research is complete, the methods and results will be reviewed by New York State Department of Public Service (DPS), NYSERDA, and the Impact Evaluation Team to determine whether additional research into market effects is needed or whether the market effects have been captured using the new spillover methods. NYSERDA is exploring a market effects protocol for several of its programs.

**Table 4-2 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>New Construction Program (NCP)</b>			
RIA, New Construction Program (NCP) Process Evaluation, December 2011	While NCP has made substantial progress developing an advanced analysis tool to foster deeper, cost-effective savings for smaller buildings, further steps are needed to finalize and implement the package. Completing this analysis tool should be a high priority, given the surge in smaller building applicants.	Pending	The program continues to work with NCP contractors to incorporate the New Buildings Institute Core Performance Guide (CPG) into the program. The current activity regarding CPG is finalizing an incremental cost process by an NCP contractor, and testing of TRC protocol with CPG outputs. This has proven to be challenging work and has continued since the previous report.

**Table 4-3. Pending Recommendations: Industrial and Process Efficiency Program**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Industrial and Process Efficiency (IPE) Program</b>			
Megdal & Associates – Led by ERS Industrial and Process Efficiency Program: Impact Evaluation Report for Program Years 2009 – 2010, August-September 2012	Reassess non-energy impacts (NEIs) in the next evaluation.	Pending	NYSERDA plans to continue with the assessment of NEIs, similar to the Phase 1 study.
RIA, Industry & Process Efficiency (IPE) Process Evaluation, November 2011	The program would benefit from database and application processing upgrades for staff to improve project management, including implementing electronic signatures and better integration of NEIs and Buildings Portal.	Pending	NYSERDA has created a new Performance Management and Evaluation Systems (PMES) department. Also, the Energy Efficiency Services (EES) Operations Unit continues to address changes needed to the multiple database process currently in place. PMES and EES Operations are integrating staffing and responsibilities to optimize reporting, database, and processing upgrades.
	The program would benefit from additional Technical Reviewer support for Western NY and data centers throughout the State.	Implemented	NYSERDA issued an RFP for Technical Review providers to support EEPSII NYSEERDA programs. Contractors were selected and feedback from this evaluation was considered in the technical evaluation panel (TEP) process and will be considered in the contract execution.



**Table 4-4. Pending Recommendations: New York ENERGY STAR Homes Program**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>New York ENERGY STAR® Certified Homes Program (NYESCH)</b>			
Megdal and Associates, New York ENERGY STAR Homes Impact Evaluation, September 2012	Consider the establishment of a separate development track for projects that are required to meet higher baseline standards. Some developers may be working under mandates to build toward certain level of efficiency (e.g., EPA ENERGY STAR) to comply with federal directives or satisfy funding requirements set by certain lenders and/or government agencies (e.g., HUD, NY state-housing agencies). This separate track may utilize a baseline (UDRH) that is different than the UDRH used for more traditional projects. This track may also have different program incentive structure that encourages certain end uses or certain savings goals over the baseline for this track.	Pending	NYESCH will consider this recommendation and will conduct a review of NYESH projects submitted to the Program that may meet a higher than code minimum threshold requirement.
	Consider alternative strategies for estimating net and market effects. The self-report approach used in this evaluation suggests that market transformation may already be well underway.	Pending	This recommendation will be considered in future evaluations. As the next round of impact evaluation proceeds, the team will work to address this issue.
	Consider excluding the estimation of homeowner inside spillover in future impact evaluations, unless the homeowner surveys are conducted for other evaluation purposes.	Pending	This recommendation will be considered in future evaluations. As the next round of impact, process and market characterization evaluations proceed, the team will work to assess this issue.

**Table 4-5. Pending Recommendations: Home Performance with ENERGY STAR®**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Home Performance with ENERGY STAR®</b>			
Megdal and Associates, Home Performance with ENERGY STAR Impact Evaluation, September 2012	Examine methods for estimating claimed lighting and water heater fuels switching for electricity savings. Further, envelope measures and programmable thermostats for natural gas savings claims should be examined.	Partially implemented 2012	During the report period of 2007-2008, the comparison of actual to modeled consumption was optional. Program contractors are currently required to “true-up” energy models to weather normalized consumption.  Analyses are underway to examine how measure savings are estimated.
	Consider database and data collection enhancements to the Program tracking database as described below. This list of potential enhancements is lengthy and may require substantial time and resources to implement.  The items below are listed in order of importance:		
	Continue to improve methods to increase the reliability of the utility identification and account numbers.	Pending	Best practice would be to ensure accuracy of utility information collected by the household and utilize an ESCO Electronic Data Interface with utilities or a similar product to assure accurate utility account information.
	Ensure data integrity by improving quality control and error checking procedures for the Program database.	Partially implemented 2011	Quality control efforts are in place and refinements are on-going.
	Consider adding more detailed household information to the primary program database, such as house type, ownership status, number of occupants, adults and adults 65 and older living in the home most of the year, age of house, presence of central air conditioning (CAC), and approximate age of equipment replaced, rather than keeping this data only in the database maintained by the implementation contractor.	Pending	The program implementer’s database is capable of collecting any/all of information specified in this recommendation. Currently available in the program implementer’s database, but not required in all cases, is the age of home, number of occupants, age of equipment, and presence of CAC. Upon request, the implementation contractor could transmit this data to the Comprehensive Residential Information System (CRIS). The program will assess the value of collecting additional information.

**Table 4-5 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Home Performance with ENERGY STAR®</b>			
	Continue efforts to collect more information on customer decision-making regarding equipment and the age of the existing equipment replaced through the Program.	Pending	Program will evaluate the value of requiring the collection of additional information from program contractors.
	Continue efforts with the utilities to ensure that billing data is complete, useful and properly interpreted.	Pending	NYSERDA Evaluation and Program staffs are actively engaged with the DPS and each of the utilities to access and collect participant utility billing data on a routine basis. Experience interpreting data from the various utilities in this and other current evaluations will help streamline effort needed to conduct future evaluations.
	Paying \$100 incentives to non-participating contractors to complete the survey should be included in the initial evaluation design, the work plan and the evaluation budget.	Pending	NYSERDA will consider the need to provide incentives to non-participants when developing future evaluation designs, work plans, and budgets. Understanding the level of incentive necessary to complete this evaluation and the response rates attained will help in planning and budgeting future evaluation studies.

**Table 4-5 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Home Performance with ENERGY STAR®</b>			
	<p>To increase the reliability of the NTG evaluation, new evaluation designs and verification follow-ups should be explored and implemented and may include:</p> <p>Continue to include non-participant spill over (SO) studies when measuring net effects for HPwES in future impact evaluations. Surveys used to gather data for SO estimation should be designed to meet quotas for the number of respondents reporting SO.</p> <p>Design future SO evaluations with full consideration to conducting related market effects studies and follow-up verification studies. This approach may mean staging different research elements relating to participant ISO, participating vendor SO, and NPSO, within a context of market change and program-induced market effects. Significantly more resources will be needed to conduct this level of research into SO and market effects.</p> <p>Design additional evaluation research to increase the number, depth and breadth of validity checks for the NPSO analysis, as this SO component reflects efficiency efforts in the larger market and has a multiplier effect in the calculations</p>	Pending	<p>NYSERDA will, to the extent possible, strive to increase the reliability of the NTG component of future evaluations by exploring new evaluation designs and methods. These efforts may include surveys to assess non-participant SO, market effects and follow-up verification studies, as well as increasing the number, depth, and breadth of validity checks.</p>
	<p>Develop and implement an enhanced evaluation design to learn more about the decision-making process for replacing major equipment, in future evaluation designs.</p>	Pending	<p>NYSERDA will consider and include in future evaluation designs, to the extent possible, multi-faceted approaches to assess homeowner or participant decision-making criteria for replacing equipment.</p>

**Table 4-5 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Home Performance with ENERGY STAR®</b>			
	Future evaluations desiring to gather information on non-energy impacts need to include measure quotas in survey and sampling design and evaluation cost estimates.	Pending	NYSERDA will attempt to include the assessment of more non-energy impacts, to the extent possible, in future evaluation designs. More specific plans will be developed on this research topic, to the extent it is included in future impact evaluations.
	<p>Evaluation Recommendation for the NYS DPS and New York Utilities: Develop a process to store participant billing records for a specified period rather than allowing older data to be placed in archives on the utilities' regular schedule.</p> <p>Work with NYSEDA and the utilities' evaluators to develop a standard way to provide billing data thereby placing NYSEDA and utility evaluations on the same level.</p>	Pending	Recommendation forwarded to DPS for further consideration. In the meantime, NYSEDA is working with Con Edison to institute a protocol whereby billing data from participating customers who have signed the required release form would be regularly requested and securely stored by NYSEDA for use in evaluation studies, thus avoiding the loss of data through Con Edison's archive process.

**Table 4-6. Pending Recommendations: EmPower New York Program**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>EmPower New York Program</b>			
Nexant, EmPower M&V, April 2007	Devise a methodology to automate the electronic transfer of results from the EmPower New York Calculator to the EmPower New York database.	Pending	EmPower will explore adoption of integrated management software.
Megdal and Associates, EmPower Impact Evaluation, April 2012	Methods for estimating savings for envelope measures (both natural gas and electric) and replacement refrigerators should be evaluated.	Pending	<p>July 2007 changes to improve the accuracy of EmPower savings estimates will have a greater impact in the post-evaluation period in the areas of: (1) Attic insulation: increased the estimated R-value of pre-existing fiberglass insulation in poor condition; (2) Wall insulation: lowered savings estimates to account for wall studs, window framing, and estimated 4% voids; (3) EmPower initiated a system for flagging and correcting high estimated savings as appropriate.</p> <p>In 2010, EmPower discontinued the use of fiberglass to insulate rim joists in favor of spray foam for both air leakage reduction and insulation.</p> <p>In 2011, EmPower initiated a practice of core sampling wall insulation to ensure appropriate density.</p> <p>Moving forward, EmPower plans to initiate:</p> <ul style="list-style-type: none"> <li>-Introduction of an advanced air sealing protocol and system for calculating savings based on air leakage reduction. Contractor training is in progress.</li> <li>-Adjustments to energy use thresholds for refrigerator and freezer replacements.</li> </ul>

Table 4-6 continued

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>EmPower New York Program</b>			
	Review policies for compact fluorescent lamp (CFL) installation to assess how to assist participants and achieve cost-effective savings, and monitor change in CFL market to determine whether it is necessary to modify the approach to the installation of CFL's further as CFL's gain greater market acceptance.	Pending	In 2008 EmPower began adjusting the estimated hours of daily usage of a CFL based on the number of CFLs installed. This approach reduces the average daily hours of use as the number of CFLs increases. The approach is more conservative than the one proposed in the NY State Tech Manual or the system recently proposed by DPS staff. In 2008, EmPower tightened enforcement of the installation of CFLs; jobs in which CFLs are given to the occupant but not installed, and yet billed to the program as installed, are scored as Quality Assurance failures for the contractor. Subsequently this practice has become very rare. The program is monitoring CFL market penetration; however, at this time finds that many opportunities remain for assisting low income households through the installation of CFLs.
	Review the fields in the database and data collection processes to assess whether additional information, such as the presence of working air conditioning, could be added to the tracking system. Review the coding of measure descriptions to make it easier to identify fuel switching measures and differentiate attic and wall insulation. Improve error checking methods and frequency to correct tracking system errors in a timely manner.	Pending	EmPower will consider adding data fields to assist future evaluations, including:  Secondary heating systems  Separate fields for attic and wall insulation savings  Air conditioning  The program has enhanced the process of data checking by the Program Implementer.
	Although the Net-To-Gross (NTG) component of the evaluation may not need to be conducted with every evaluation cycle, continuing to measure net effects for EmPower in the future is warranted.	Pending	NYSERDA will discuss the merits of continuing to assess NTG in future EmPower evaluations with DPS. Since most low-income evaluations do not address NTG, and this study found the NTG to be nearly a 1.0, NYSERDA will weigh the benefits and costs of collecting such information in future studies.
	Continue to use survey instruments to inform the billing analysis, assess non-energy benefits and NTG factors	Pending	This recommendation will be considered when designing the next evaluation.

**Table 4-7. Pending Recommendations: Green Jobs-Green New York Small Homes<sup>a</sup>**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Green Jobs-Green New York Small Homes</b>			
NMR Group, Inc., Process Evaluation and Market Characterization and Assessment, September 2012	Ensure that the marketing message to homeowners emphasizes the program benefits of saving on energy bills or saving energy. In order to support this effort, NYSERDA could provide sample data on potential net savings, in terms of financing costs and monthly savings on energy costs for different types of homes. Design interactive and educational tools to assist and engage the homeowner in understanding the potential efficiencies is another approach that could be taken.	Pending	Program staff are considering the benefits and costs of developing an interactive online energy audit tool for homeowners to learn about energy efficiency and the Home Performance with ENERGY STAR Program.
	<p>Improve the tracking and presentation of HPwES contractor information to customers. Explore incorporating additional software functionality which would allow the NYSERDA website to list or sort contractors by distance from home and languages spoken. Examples of other search criteria that NYSERDA could consider include the number of HPwES projects completed, types of measures implemented, any quality assurance and quality control information that is not confidential, and customer satisfaction rating.</p> <p>For customers lacking web access, NYSERDA could provide such information over the phone or by mail.<sup>b</sup></p>	Partially Implemented	<p>Downstate community based organizations (CBOs) are allowed to make direct referrals to Home Performance with ENERGY STAR (HPwES) contractors. NYSERDA has developed a written process under which NYC-based CBOs may conduct customer referrals.</p> <p>Program staff is developing a customer satisfaction survey that would be combined with contractor profile information to offer customers better guidance on selection of a contractor.</p> <p>The HPwES Program launched a new contractor search website in July 2013. This website includes more robust contractor information to assist customers in the contractor selection process. Additional enhancements are planned.</p>
	Continue to enhance program data collection, tracking, and cross-contractor integration.	Pending	A web-based program management software tool was launched in July 2013. This tool tracks projects from customer intake through completion more efficiently and effectively. This tool will able provide enhanced reporting capabilities.



**Table 4-7 continued**

Source of Recommendation (Contractor, Report Title, Date)	Recommendation	Status (Implemented, Pending or Rejected)	Program Implementer Response to Recommendation and Adoption Decision Rationale
<b>Green Jobs-Green New York Small Homes</b>			
	<p>Consider offering additional seminars and webinars to educate HPwES contractors about the GJGNY low-interest loans. NYSERDA could also provide HPwES contractors with more guidance and better tools to sell the loan and help their customers through the application process. Align these approaches with the CBO effort to educate customers about the loans as well. Although EFS offer customer service and pre-screening, consider using an independent firm, such as EFS, to discuss GJGNY financing information with the participants directly.</p>	Pending	<p>Program staff presented a webinar to CBOs dedicated to financing. In addition, training for call center staff was provided.</p> <p>Energy Finance Solutions (EFS) is available to discuss GJGNY financing information with participants directly.</p> <p>The Building Performance Contractors Association is delivering a series of contractor training sessions across the state to answer contractor questions when it can and offer feedback to NYSERDA.</p> <p>The CBOS are now represented at the monthly meetings sponsored by Efficiency First to bring NYSERDA and contractors to seek solutions to barriers to increased adoption of energy efficiency.</p> <p>On September 5, 2013, the HPwES Program offered a sales and marketing webinar to participating contractors.</p>
	<p>Develop marketing and educational materials that promote the benefits of early replacement of energy-consuming equipment. Educate HPwES contractors on how best to offer the consumer guidance about the benefits of early replacement.</p>	Pending	<p>This recommendation requires information to support the benefits of early replacement of equipment.</p>
<p><sup>a</sup> Utilizing the existing infrastructure of the EEPS Home Performance with ENERGY STAR (HPwES) Program, Green Jobs – Green New York (GJGNY) funding provides free or reduced-cost energy audits, and low-interest financing to homeowners for the installation of HPwES-eligible, energy efficiency measures and eligible solar hot water systems. Though the study referenced in this table was supported by the GJGNY evaluation budget, the study is included in this report given its connection with the EEPS HPwES Program.</p> <p><sup>b</sup> CBOs are undertaking “aggregation,” bringing a collection of eligible homes into the program using the same contractor or contractor team, which should also help to address the issue of finding and selecting contractors. For more information, visit: <a href="http://www.nyserda.ny.gov/Page-Sections/Green-Jobs-Green-New-York-Planning/Advisory-Council/~media/Files/EDPPP/Planning/GJGNY/Advisory%20Council%20Meetings/2010-05-26_GJGNY-draft-aggregation-model.ashx">www.nyserda.ny.gov/Page-Sections/Green-Jobs-Green-New-York-Planning/Advisory-Council/~media/Files/EDPPP/Planning/GJGNY/Advisory%20Council%20Meetings/2010-05-26_GJGNY-draft-aggregation-model.ashx</a></p>			

## 5 Other

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Per the DPS reporting guidance, this section provides an opportunity to report significant activities or events not already reflected in the report. This section is not for reporting routine activities.

There are no other significant activities requiring explanation for the third quarter of 2013.

# Appendix A: Completed Evaluation Summaries

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No new evaluation studies were completed in the third quarter of 2013. Future quarterly reports will summarize studies in this appendix as they are finalized.



NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and funding to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

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**State of New York**  
Andrew M. Cuomo, Governor

## NYSERDA's Energy Efficiency Portfolio Standard Program

Quarterly Report to the Public Service Commission  
Quarter Ending September 30, 2013

**New York State Energy Research and Development Authority**  
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