PENDING PETITION MEMO

Date: 9/22/2008

TO : OGC
OEGW
OEEE

FROM: CENTRAL OPERATIONS

UTILITY: ORANGE AND ROCKLAND UTILITIES, INC.

SUBJECT: 08-E-1128

Petition of Orange and Rockland Utilities, Inc. for Approval of an Energy Efficiency Portfolio Standard (EEPS) Utility-Administered Electric Energy Efficiency Program.

Richard B. Miller
Assistant General Counsel
212.460.3389
millerrich@coned.com

Orange & Rockland

September 22, 2008

Via Hand Delivery

Hon. Jaclyn A. Brilling,
Secretary
State of New York Public
Service Commission
Three Empire Plaza
Albany, New York 12223

2008 SEP 22 PM 2:29

Re: Case 08-E -1003 - Orange and Rockland's Filing of Electric Efficiency Programs in Accordance with the Commission's Order Establishing Energy Efficiency Portfolio Standard and Approving Programs in Case 07-M-548

Dear Secretary Brilling:

Please find enclosed for filing an original and twenty-five copies of the filing of Orange and Rockland Utilities, Inc. ("O&R" or "Company") that contains the second set of energy efficiency programs that the Company was authorized to file pursuant to the Commission's order in the Energy Efficiency Portfolio Standard ("EEPS") Proceeding.[1] The Company requests expedited consideration so that it may commence delivery of these beneficial programs as soon as possible.

On June 23, 2008, the Commission issued a landmark order that adopted the goal of reducing electricity usage by 15% statewide by 2015. O&R supports this State goal and is pleased to submit its second set of programs contemplated by Ordering Clause 10 of the June 23rd Order, *i.e.*, this filing contains the Company's program plan for implementation of five electric programs, of which two are expanded programs from its August 2008 60-day filing:

- Residential direct installation program for O&R's electric customers;
- Residential efficient products program for O&R's electric customers;
- Residential ENERGY STAR electric heating, ventilation and air conditioning program for O&R's electric customers (expansion of 60-day);

[1] Case 07-M-0548 - Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard, Order Establishing Energy Efficiency Portfolio Standard and Approving Programs (June 23, 2008) ("June 23rd Order").

- Small Business direct install program for O&R's electric customers (expansion of 60-day); and

- Commercial and Industrial existing building program electric customers.

The plan set forth herein provides in detail all of the information required by the June 23rd Order (p. 72), including: (1) benefit/cost estimates using the Total Resource Cost test methodology; (2) discussion and analysis of any independent program administrators' proposals; (3) measurement, verification and evaluation plans that conform with the guidelines distributed by Department of Public Service Staff on August 7, 2008.

These programs, combined with O&R's Expedited Programs described in the Company's filing dated August 21st, will exceed its assigned 2011 MWh savings target established by the June 23 Order (Appendix 1, Table 11) and are designed to fulfill the 2015 jurisdictional gap for the O&R service territory (exclusive of NYSERDA's fast track programs). The Company has decided to design and submit programs with such goals for several reasons. First, the Company has recently completed an economic potential study in its service territory and, based on the results of that study, believes that it can achieve that level of energy savings as a program administrator. O&R believes that its branding, customer relationships, community presence and energy expertise will be the main drivers in achieving this level of energy efficiency savings. The Company has recently completed an economic potential study in its service territory and, as informed by the results of that study, believes that it can achieve that level of energy savings as a program administrator. O&R believes that its branding, customer relationships, community presence and energy expertise are the main drivers in achieving this level of energy efficiency savings.

In its 60-day filing O&R requested an additional budget of $8 million for the Small C&I Direct Install Program and Residential ENERGY STAR HVAC Program to achieve an additional 15,000 MWh of savings. O&R has included that increased level of spending in this 90-day filing, which, if approved, eliminates the need for the additional funding requested in the 60-day filing.

O&R respectfully requests that the Commission approve the Company's program filing, including the request for increased funding from existing available funds, so that the Company can start bringing cost-effective energy efficiency benefits to its customers.

Respectfully submitted,

Richard B. Miller (RM)

Richard B. Miller

Enc.

cc: Case 07-M-0548 ListServer

PUBLIC SERVICE COMMISSION OF THE STATE OF NEW YORK

CASE 08-E-1003

ORANGE AND ROCKLAND UTILITIES

RESIDENTIAL AND COMMERCIAL ENERGY EFFICIENCY PORTFOLIO PROGRAMS

September 22, 2008

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Glossary of Acronyms

Acronym	Definition
AC	Air Conditioning
ACCA	Air Conditioner Contractors of America
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers
BC	Benefit Cost
BPI	Building Performance Institute
C&I	Commercial and Industrial
CAC	Central Air Conditioning
CCF	Hundred Cubic Feet
CEE	Consortium for Energy Efficiency
CFL	Compact Fluorescent Lamp
Commission	State of New York Public Service Commission
Con Ed	Consolidated Edison Company of New York, Inc.
DHW	Domestic Hot Water Heater
DI	Direct Install
DSM	Demand Side Management
ECM	Electronically commutated motors
EEPS	Energy Efficiency Portfolio Standard
EER	Energy Efficiency Ratio
EIA	Energy Information Administration
EPA	Environmental Protection Agency
HVAC	Heating, Ventilation & Air Conditioning
kWh	Kilowatt-hour
MV&E	Measurement, Verification and Evaluation
MWh	Megawatt-hour
NCP	Negotiated Cooperative Promotion
NEEP	Northeast Energy Efficiency Partnerships
NYISO	New York Independent System Operator
NYPA	New York Power Authority
NYSEG	New York State Electric and Gas
NYSERDA	New York State Energy Research and Development Authority
O&R	Orange and Rockland Utilities, Inc
QI	Quality Installation
QIV	Quality Installation Verification
RAC	Room Air Conditioner
RFP	Request for Proposals
SBC	System Benefit Charge
SC	Service Classification
SEER	Seasonal Energy Efficiency Ratio
T&D	Transmission and Distribution
TIP	Tariffed Installation Programs
TRC	Total Resource Cost
VFD	Variable Frequency Drive

1. INTRODUCTION

Orange and Rockland Utilities, Inc. (O&R) is pleased to submit this Energy Efficiency Portfolio Standard (EEPS) Program Proposal pursuant to the June 23, 2008 Order of the State of New York Public Service Commission's (Commission) in Case 07-M-0548. This filing contains the Company's combined program plan for development of the following electric efficiency programs (the Programs):

- Residential direct installation program;
- Residential efficient products program;
- Residential central air conditioner expansion program;
- Commercial and industrial existing building program;
- Commercial and industrial direct install expansion program;

These programs, combined with O&R's Expedited Programs described in the Company's filing dated August 21, 2008, will exceed its assigned 2011 MWh savings target from Table 11 in Appendix 1 of the June 23rd Order, and are designed to fulfill the 2015 Jurisdictional Gap for the O&R service territory exclusive of NYSERDA's fast track programs. The Company has designed and is submitting programs with such goals for several reasons. The Company has recently completed an economic potential study in its service territory and, based on the results of that study, believes that it can achieve this level of energy savings as a program administrator. O&R believes that its branding, customer relationships, community presence and energy expertise will be the main drivers in achieving this level of energy efficiency savings.

In addition to NYSERDA's New York Energy Smart Program Evaluation and Status Report Year Ending December 31, 2007, issued March 2008, O&R customers receive 60% of their System Benefit Charge ("SBC") benefits as compared to the SBC contributions they have made since program inception. O&R has brought this inequity to NYSERDA's attention on numerous occasions. This is the lowest percentage penetration

in the State for NYSERDA's programs. In comparison, RG&E customers receive 170% of their SBC contributions. In NYSERDA's 60 day "Fast Track" filing, it makes no mention of working with O&R or increasing its presence in the Company's territory, notwithstanding the Commission's directive that NYSERDA should address service territory inequities. Instead, NYSERDA's 60 day filing states that funds would be allocated on a first-come first-served basis and that it would make special efforts to promote its programs in New York City. O&R is concerned that its customers will continue to subsidize other service areas in the State and, as such, O&R would like to administer the suite of programs included herein to provide customer contribution equity, customer satisfaction, and attainment of the Commissions MWh goals for the Company's service territory.

O&R believes that NYSERDA's "Fast Track" programs will complement O&R's suite of programs and will also continue to provide NYSERDA with a material program administration role in the service territory. O&R has begun discussions with NYSERDA and will continue to work with NYSERDA to coordinate and partner where appropriate to maximize the Company's efforts and benefits to its customers.

As recognized in the June 23 Order (p.49), there are many reasons for establishing investor owned utilities as program administrators, including that "[u]tilities have direct access to customers and customer usage information. They offer a diversity of approaches that may lead to a wider offering of programs than would occur under a centralized administrator." O&R agrees that it is well positioned to deliver customized energy efficiency programs to meet the needs of its customers. The Company understands the unique characteristics and needs of various customer segments and utilizes staff whose sole responsibility involves responding to customer's needs. Its relationships and institutional knowledge will enable O&R to design effective and comprehensive solutions that will maximize participation and energy savings.

The plan set forth herein provides in detail all of the information required by Appendix 3 in the Commission's June 23 Order, including benefit/cost estimates using the TRC Test methodology, measurement, verification and evaluation (MV&E) plans customized to

each program and estimated energy savings in 2015.[1] In addition, the Company has held collaborative discussions with NYSERDA, other utilities and other interested parties, which are described below.

1.1. ENERGY EFFICIENCY PORTFOLIO STRUCTURE

O&R's proposed Programs build on the three Expedited Programs (Small C&I Direct Install, Residential ENERGY STAR HVAC, and Residential Gas Efficient Equipment Programs submitted on August 22 and the economic potential study performed for its service territory. In total, these programs create energy savings opportunities for all customer market segments by providing the knowledge and the financial incentive to make energy efficient decisions.

DIRECT INSTALLATION PROGRAMS: Direct Installation Programs will be offered to both residential and small C&I customers to acquire durable savings in energy and peak demand usage among participants. Small C&I customers with peak demands of 100 kW or less will receive low cost on-site energy surveys and direct installation of cost-effective lighting, motors, refrigeration and duct seal measures. The Existing Homes Program will target electric space heat customers. For an up-front customer contribution of $100, an on-site survey will be performed and cost effective measures installed free of charge. Low-income customers will be referred to NYSERDA's Empower NY program.

PRESCRIPTIVE REBATE PROGRAMS: The Efficient Products Program and the Existing Buildings Program offer rebates directly to customers at the point of purchase for prescriptive measures. Prescriptive or standardized rebate programs are simple, cost-effective means to help offset the higher installed cost of many high efficiency technologies. O&R will work with contractors, distributors and retailers to promote these products and ensure that customers have the opportunity to purchase higher efficiency models. Marketing and outreach will convey the energy

[1] As required by the Commission's August 22 Order on utility incentives, the shareholder incentives are included in the TRC as if O&R met 100% of its goal, even though such incentives are not ordinarily included as part of the TRC.

cost savings and environmental benefits of installing the higher cost, more efficient technologies. Training of retailer sales staff will provide them with the tools they need to "upsell" customers to efficient products.

CUSTOM DESIGN EFFICIENCY PROGRAMS: In some cases, customers may desire a more comprehensive, whole-facility approach to efficiency, or may require upgrades to more complex technologies. For these applications, the Existing Building Program has a custom component track where technical assistance services will be offered. This will include detailed engineering analysis on larger, more comprehensive customer projects, as well as more simplified analysis and audits were appropriate. Customer will benefit through a customized solution that maximizes cost-effective energy savings to make them more competitive in the market.

1.2. GOALS

The full portfolio of O&R's programs is designed to achieve the MWh savings set forth below, which exceeds the level of savings assigned in the Commission's June 23 Order in Table 11 of Appendix 1. Table 1 identifies the estimated annual goals that O&R has established, including an estimate of ramp up for each year. The estimated ramp up rates are based on the projected time for the Company to scale up its programs as customer awareness increases and O&R adds resources to deliver its programs.

TABLE 1:

Orange and Rockland Utilities
MWh Goals By Program (Full Portfolio)

	2008	2009	2010	2011	2008-'11
Res Energy Star HVAC (Expanded)	8	122	301	518	949
Small C&I Direct (Expanded)	0	7,206	12,308	16,398	35,912
Res Existing Homes	0	44	267	689	1,000
Res Efficient Products	0	2,474	7,329	9,815	19,618
C&I Existing Building	0	7,299	14,319	21,314	42,932
Total Programs	8	17,145	34,524	48,734	100,411

The Company requests that its annual incentive be based on its energy reduction for its suite of programs in total and that it be allowed to reallocate up to 40% of funds between programs as appropriate to optimize the use of energy efficiency funds and achieve these annual goals. By achieving 100,411 MWh by 2011, O&R will exceed the MWh necessary (89,817 in three years) to earn the full, $3,489,663 over that same period. The Company has filed a petition for rehearing on this cap.

The Company also notes that the MWh achievement shown here exceeds the Company's goal, includes NYSERDA's 90 day goal, and includes a portion of the MWh that the Commission initially expected would come through Tariffed Installation Programs ("TIP") or on-bill financing (9,623 MWh). The Company is participating in the Working Group on on-bill financing, which is considering issues associated with an On-Bill Financing mechanism. The Company anticipates that, if a practical OBF mechanism can be developed, then it will implement OBF in connection with one or more of the programs proposed herein.

TABLE 2:

Orange and Rockland Utilities
Annual Projected Cumulative Savings

	MWH Savings	MW Savings	Peak-Coincidence Factor MW Savings
2008	8	0.0	0.17
2009	17,153	4.8	0.41
2010	51,677	12.8	0.46
2011	100,411	24.7	0.46
2012	133,881	32.9	0.46
2013	167,352	41.2	0.46
2014	200,822	49.4	0.46
2015	234,292	57.6	0.46

Peak Coincidence Factor calculated as defined in the June 23 Order in Appendix 3.

SUMMARY TRC AND IMPACTS

A summary of the energy and demand savings, and utility and customer costs, including the previously filed expedited programs, is provided in Table 3, which details the benefit costs ratios with and without the impact of carbon reduction.

TABLE 3:

Orange and Rockland Utilities
Projected Spending and Impact Detail and Cost Effectiveness (Full Portfolio)

	2008	2009	2010	2011	2008-'11
Savings (MWh)	8	17,145	34,524	48,734	100,411
Savings (MW)	0.0	4.8	8.0	11.9	24.7
Total Resource Cost	$86,536	$10,765,845	$19,977,258	$28,424,788	$59,254,427
Utility Financial Incentives	$311	$666,083	$1,341,257	$1,893,316	$3,900,967
Participant Costs Net of Incentives	$2,763	$3,437,697	$7,243,319	$10,821,650	$21,505,429
Direct Utility Costs	$83,463	$6,662,065	$11,392,682	$15,709,822	$33,848,031
Customer Incentives	$6,676	$3,894,611	$7,887,035	$11,298,364	$23,086,686
Program Planning & Administration	$16,364	$794,420	$749,845	$769,783	$2,330,413
Program Marketing & Trade Ally	$25,000	$730,313	$577,844	$549,214	$1,882,370
Program Implementation	$31,250	$910,646	$1,615,643	$2,328,206	$4,885,745
Evaluation & Market Research	$4,173	$332,075	$562,315	$764,254	$1,662,818

	Excluding Utility Incentives		Including Utility Incentives	
TRC Test	Without Carbon Dioxide	With Carbon Dioxide	Without Carbon Dioxide	With Carbon Dioxide
NPV Benefits (TRC)	119.1	123.3	119.1	123.3
NPV Costs (TRC)	46.5	46.5	49.6	49.6
Benefit-Cost Ratio (TRC)	2.6	2.7	2.4	2.5

As shown in Table 3, the entire portfolio as planned is expected to achieve over 100,000 MWh in cumulative savings. The evaluation budgets established are set at five (5) percent of the total utility budget, although the actual budget for each program may vary from that amount.

Table 4 shows the energy and demand savings and costs excluding the 60 day program spending and impacts as filed, *i.e.*, it is the 90 day portion of the entire portfolio. While O&R requested additional spending beyond the expedited level in our 60 day filing for both the Small C&I Direct Install and Residential ENERGY STAR HVAC Program, O&R is including that increased level of spending as part of our 90 day filing. If the 90 day filing is approved, the Company would no longer need the additional funding request from its 60 day filing. Cost-effectiveness has been performed for the affected programs in total, including the 60 day level of spending and expected energy impacts. Details of this expansion will also be provided within the individual program descriptions sections.

TABLE 4:

Orange and Rockland Utilities
Projected Spending and Impact Detail (90 Day Filing less 60 Day Filing)

	2008	2009	2010	2011	2008-'11
Savings (MWh)	0	12,787	27,231	38,980	78,998
Savings (MW)	0.0	3.5	6.0	9.2	18.7
Total Resource Cost	$10,527	$7,934,267	$15,000,957	$21,742,953	$44,688,704
Utility Financial Incentives	$0	$496,775	$1,057,924	$1,514,373	$3,069,073
Participant Costs Net of Incentives	$0	$2,842,486	$6,092,425	$9,242,632	$18,177,543
Direct Utility Costs	$10,526	$4,595,006	$7,850,608	$10,985,948	$23,442,088
Customer Incentives	$0	$2,395,084	$4,966,356	$7,263,424	$14,624,864
Program Planning & Administration	$0	$550,616	$513,927	$521,652	$1,586,196
Program Marketing & Trade Ally	$10,000	$627,813	$490,292	$468,447	$1,596,551
Program Implementation	$0	$792,771	$1,494,821	$2,204,364	$4,491,956
Evaluation & Market Research	$526	$228,722	$385,212	$528,060	$1,142,521

1.3. GENERAL PROGRAM DELIVERY

O&R will use its own staff to administer the overall suite of programs. A Residential Program Administrator and C&I Program Administrator, along with technical staff, will oversee third party contractors implementing programs in the field. Additional staff may be added as programs are ramped up and funding is available in this filing to address that need. In cases where a third-party contractor is needed, the Company's general policy is to procure materials, equipment, and services through competitive bid. However, there may be circumstances where a competitive bid is not practical and a sole-source procurement may be used. O&R will continually review all of its programs on a regular basis and will revise qualifying equipment, eligibility and incentive levels as appropriate to manage program participation as market conditions and technologies change. If O&R makes any changes, it will notify DPS Staff and other interested parties of the changes and TRC impacts.

Education and Training: O&R expects superior quality for its staff and contractors and will work to provide appropriate training to support all functions of its programs from responding to program inquiries to the installation of complex custom design systems. O&R will provide on-going training throughout the entire period of program delivery. O&R has identified the following specific areas where education and training will be critical to the success of the Programs.

- **Customer Education**: In coordination with other program administrators and the Commission's Outreach and Education Advisory Group, O&R will develop appropriate consumer education materials to be distributed during an energy survey, via bill insert and newsletter, or electronically through web applications. These materials may include customer or segment specific energy use information, personal carbon footprint or energy benchmarking, fact sheets on energy efficient equipment and behaviors, do-it-yourself installation and maintenance guides and general energy efficiency materials. Educational materials will demonstrate to the customer why paying more for energy efficient equipment makes sense over a longer-term period because energy savings will accumulate over time. The Company may use customer pay-back analysis to demonstrate the benefits of installing energy efficient equipment to move the customer toward the energy efficient purchase. As customers begin to understand the economic and environmental impacts of energy efficient decisions, awareness and program acceptance will increase along with program participation. The Company has already proven that it can reach its customers and educate them on complex issues, as evidenced by its very successful Retail Choice program. Over 40% of O&R customers are purchasing supply from alternate suppliers. When O&R customers were surveyed last October, 74% of customers were aware of deregulation and 80% of those "aware" customers had a rigorous understanding of deregulation and how to shop for alternate suppliers.
- **Internal Staff Education**: O&R will train appropriate staff to be familiar with its suite of programs, as well as those of NYSERDA, NYSEG and Central Hudson, to be able to recommend participants to the appropriate available programs. The Company will implement company-wide outreach to provide essential program information. A team of employees will be trained initially and then sent out to

departmental meetings to update employees on programs available to customers within our service territory. Large Power Representatives will receive focused training on programs available to large customers, especially our custom design component of the Existing Building Program.

- **Contractor Education**: Contractors will play a key role in promoting and implementing the program. While O&R will provide training to its selected program contractors on its suite of program offerings, contractors will be encouraged to take advantage of NYSERDA's subsidized Building Performance Institute Training Program. The more contractors that are BPI certified in the O&R service territory, the more opportunity there will be for the installation of energy efficient equipment.
- **Other Education**: The Company will reach out to trade allies, equipment dealers, retail outlets, builder and realtor associations and other professional groups with direct mail, economic development groups and community meetings, webinars, one-on-one outreach targeting trade allies and other stakeholders to inform them about the Company's programs, the benefits available and how to participate.

1.4. MARKETING STRATEGIES

O&R utilizes a wide range of marketing channels to promote other Company programs in its service territory including print media, direct mail, Internet and radio advertisements. Additionally, O&R will capitalize on customer contacts like service calls, newsletters, on-bill messaging, bill inserts, monthly newsletters, community speaking engagements and events. The Company will continue to use these traditional marketing channels and explore other areas for promoting programs in this highway of electronic communications. Several specific marketing and promotional strategies are outlined below:

- O&R will develop co-marketing strategies and leverage vendor relationships and trade allies to promote programs;

- O&R will build brand identity for its portfolio of programs to help generate customer recognition and establish O&R as a significant resource in the energy efficiency market;
- O&R will utilize the Internet as major platform for marketing and support of its energy efficiency programs. The Company's website is already a resource of information for both residential and C&I customers; and
- O&R will investigate offering an on-line home energy analysis tool linked to the customer billing system that will provide customers with the details of how they use their energy, how they can change behaviors, and recommend equipment upgrades based on their personal profile.

1.5. COORDINATION WITH OTHER PROGRAM ADMINISTRATORS AND STAKEHOLDERS

Pursuant to the Commission's directives in the June 23 Order, O&R collaborated with interested parties and participated in joint meetings with other New York utilities, NYSERDA, NYPA and other stakeholders including:

- Throughout the period of preparing for the EEPS filings, O&R met individually on numerous occasions to discuss coordination with other stakeholders such as Central Hudson, Con Edison, National Grid, NYSEG, RGE, St. Lawrence Gas, National Fuel Gas and NYSERDA, as well as energy services companies, vendors and other key stakeholders.
- O&R has discussed with the other New York utilities whether to use one evaluation contractor for some or all of the Expedited Programs. The use of a single contractor for evaluating all of the New York energy efficiency programs could reduce customer costs and provide for accurate comparison of results across programs. In addition, O&R would look to reduce costs by retaining a single contractor to perform process and impact evaluations for its entire suite of programs.

- O&R has been actively participating in several EEPS Proceeding Working Groups with other utilities and interested parties and will continue to collaborate as part of the On-Bill Financing Working Group VI.
- In communities where O&R provides the electric service and NYSEG and Central Hudson provide gas service, O&R intends to integrate program delivery so that customers may participate in both electric and gas programs from each utility's suite of programs. O&R has already held discussions with NYSEG and Central Hudson and will continue these efforts to develop and integrate its delivery and marketing approach and track program costs and savings.
- On September 11, 2008, O&R met with NYSERDA to discuss and review potential energy efficiency programs for the residential and C&I customers. O&R agreed to have NYSERDA continue to serve the O&R customers with NYSERDA's EmPower NY and New Construction Program. The two organizations agreed to work together to serve the ratepayers in the O&R service territory as efficiently and economically as possible. In particular, further collaboration on potential NYSERDA programs like the promotion of smart power strips would most likely benefit the Company's customers. Further program synergies will be explored after the Company has reviewed NYSERDA's final 90 day programs.

1.6. PROGRAM SCREENING METHODOLOGY

1.6.1. TOTAL RESOURCE COST TEST BENEFIT-COST RATIO. Assessment of cost effectiveness begins with a valuation of the program's gross "total resource" benefits, as measured by the electric avoided costs[2] and an accounting of the program's total delivered costs. The program's cost

[2] Annual avoided costs are found in the July 2008, Economic Energy Efficiency Potential Study prepared for Orange and Rockland Utilities by Optimal Energy.

effectiveness is determined in terms of the expected net present value of its benefits. A program is generally considered cost effective if its net "total resource" benefits are greater that net resource costs, in other words:

$$\frac{\text{Total Resource Benefits}}{\text{Total Resource Costs}} \geq 1$$

where,

$$\textit{Total Resource Benefits} = \text{NPV}\left(\sum_{year=1}^{measurelife}\left(\sum_{t}^{t=8760}(\text{impact}_t \times \text{avoidedcost}_t)\right)\right)$$

and,

Total Resource Cost = NPV (Incremental Measure Costs + Utility Costs not including participant incentives).

PROGRAM BENEFIT COMPONENTS. Benefits used in the TRC test calculation include the full value of time and seasonally differentiated generation, transmission and distribution, and capacity costs. Benefits also take into account avoided line losses. Benefits accruing from fossil energy savings (or conversely, negative benefits from increased fossil energy use) are also included as are non-energy benefits such as water savings.

PROGRAM COST COMPONENTS. The cost component of the analysis considered incremental measure costs and direct utility costs. Incremental costs are the incremental expenses associated with installation of energy efficiency measures (net of the customer rebate) and on-going operation and maintenance costs, where applicable. Utility costs are the expenses associated with development, marketing, delivery, operation and MV&E of the program and fall into the five following categories:

- **PROGRAM PLANNING AND ADMINISTRATION.** Costs to administer energy efficiency programs that include, but are not limited to: staff salaries (management personnel, program administrators, accounting personnel, evaluation staff, administrative support staff), and company overhead (i.e., office space, supplies, computer and communication equipment, staff training, industry related sponsorships, and memberships).

- **PROGRAM MARKETING AND TRADE ALLY.** Promotion of energy efficiency programs, which includes, but is not limited to: production of all energy efficiency program literature, advertising, promotion, displays, events, promotional items, bill inserts, and internal and external communications. Advertising encompasses all forms of media such as direct mail, radio, television, and internet. Trade Ally includes all activities associated with energy efficiency training and education of the trade ally community, which includes, but is not limited to: heating contractors, weatherization contractors, efficiency equipment and product installers, residential and C&I auditors, residential and C&I builders and developers.

- **CUSTOMER INCENTIVES.** Costs associated with rebates paid to customers, directly and indirectly, for implementing energy efficiency. Additionally, this includes services provided to customers such as energy audits, technical assessments, engineering studies, plan reviews, blower door tests and infrared scans.

- **PROGRAM IMPLEMENTATION.** Costs associated with vendors and contractors administering programs on O&R's behalf. Tasks associated with this budget category include but are not limited to;

lead intake, customer service, rebate application processing, rebate application problem resolution, equipment installation inspections, rebate processing and individual program reporting.

- **EVALUATION AND MARKET RESEARCH.** All activities associated with the evaluation of current and potential energy efficiency programs. These activities include but are not limited to; benefit cost ratio analysis, program logic models, cost per therm analysis, efficiency product saturation analysis, customer research, and all ad hoc analyses that are necessary for program evaluation. In addition, any activities that pertain to regulatory compliance or reporting conducted by energy efficiency group personnel or contractors would fall under this category. Expenses associated with evaluation include all internal and external costs.

1.7. COST EFFECTIVENESS ANALYSIS

Economic performance of each program was evaluated using the TRC test with and without a carbon dioxide externality adder and with utility incentives of $38.85 per MWh as directed in the Commission's August 22, 2008 Order Concerning Utility Financial Incentives. Carbon dioxide included in the TRC was valued at $15 per ton, assuming 0.342 tons of carbon dioxide emissions per MWh[3]. Benefit cost ratios were calculated using the methods described in the California standard protocols for analyzing cost-effectiveness of energy efficiency programs.

Table 5 identifies the assumptions used in the cost effectiveness analysis of measures and programs.

[3] Based on a forecast of the changes in generation and emissions resulting from implementation of the 15 X 15 EEPS in the NYISO region.

TABLE 5:

Avoided Energy Costs (2009)	
Summer On-Peak	$0.156/kWh
Summer Off-Peak	$0.091/kWh
Summer Shoulder	$0.112/kWh
Winter On-Peak	$0.139/kWh
Winter Off-Peak	$0.104/kWh
Winter Shoulder	$0.141/kWh
Avoided Capacity Costs (2009)	
Generation	$43.73/kW-yr
Trans. and Dist.	$76.49/kW-yr
Externality	0.342 tons CO2 per MWh, valued at $15/ton
Line Loss	
Summer On-Peak	16.35%
Summer Off-Peak	11.16%
Summer Shoulder	14.63%
Winter On-Peak	12.73%
Winter Off-Peak	10.87%
Winter Shoulder	12.85%
Capacity	14.81%
Real Discount Rate	5.5%
Inflation	2.5%

1.8. QUALITY ASSURANCE

Quality Assurance will be integral to the design and delivery of all programs in the proposed portfolio. Quality control measures will be implemented as various stages of program implementation to ensure the highest standards in program delivery in the industry. These measures may include:

- Applying qualifying protocols in recruiting field staff such as those who conduct energy surveys;
- Developing a list of experienced equipment vendors and BPI certified installation contractors through careful screening and qualification;
- Providing consistent hands on assistance to C&I customers through O&R's support staff; and

- Conducting follow-up calls to participating customers to ensure their satisfaction with the rendered services and to help them in their decision to install additional measure.

O&R will be conducting post-survey inspections of sites receiving measures to ensure proper installation and functioning of measures.

1.9. MEASUREMENT AND VERIFICATION AND EVALUATION ("MV&E")

The evaluation plans presented in this filing follow the guidelines for EEPS Program Administrators distributed by DPS Staff on August 7, 2008. The Company will hire an evaluation contractor shortly after program approval so that programs can be informed from inception with the expertise of current evaluation practices and best methodologies to be utilized for each unique program found in the proposed portfolio. The evaluation contractor would then propose modifications of the program data collection activities if necessary so as to be able to provide rigorous process and impact evaluations. O&R also anticipates that its evaluation efforts will be informed by the ongoing efforts of the Evaluation Advisory Group and by collaboration with other utilities in the State that are implementing similar programs.

1.10. PROCUREMENT PROCESS

O&R plans to use a combination of in-house resources and third-party contractors to support its programs. The functions performed by contractors may change over time as the Company determines the most cost-effective approach to program administration. In cases where a third-party contractor is needed, the Company's general policy is to procure materials, equipment, and services through competitive bid. However, there may be circumstances where a competitive bid is not practical, and sole source procurement may be used.

1.11. REPORTING

O&R is proposing to provide the Commission with quarterly reports on the progress of program implementation. These reports will include information on

actual expenses, customer participation and energy savings realized compare with annual budgets and goals. These reports will also include information about ongoing evaluation efforts. Each quarterly report will be submitted to the Commission approximately 45 days following the end of the calendar quarter.

In addition to the quarterly reports, the Company proposed to submit an annual report to the Commission for the purpose of updating its proposed budgets and goals for the coming year informed by evaluation findings, customer's response to programs, and other relevant information. The proposed budget to be included in the annual report will reflect any under or over spending from the prior year. Each annual report will be submitted to the Commission approximately 180 days following the end of the calendar year.

O&R is proposing to use the format currently used by National Grid's KeySpan subsidiary in its reports to the Commission. The following categories are included:

- Program Planning & Administrative Expenditures, year to date;
- Program Marketing Expenditures, year to date;
- Customer Incentive Expenditures, year to date;
- Program Implementation Expenditures, year to date;
- Evaluation & Market Research Experience, year to date;
- Total Expenditures, year to date;
- Program Year Budget, year to date;
- Annual Budget;
- Number of Rebates (or Participants), year to date;
- Participation Goal, year to date;
- Annual Participant Goal for Program Year;
- Total Savings (kWh, kW, ccfs), year to date;
- Savings Goal, year to date; and
- Annual Savings Goals for Program Year.

1.12. PROGRAM ADMINISTRATOR PROPOSALS

The June 23 Order provided that third parties could submit to NYSERDA or the utilities, or both, proposals to act as independent administrators. These proposals were to been submitted by August 7, 2009 and were to have met the specific guidelines set forth in the June 23 Order. Pursuant to the June 23 Order, O&R received three proposals by the August 7 deadline.

- **CONSUMER POWER LINE**: O&R received a proposal from Consumer Power Line that recommended fundamental changes to the basic structure of the Energy Efficiency Portfolio Standard and was therefore not a specific proposal per se that the Company could include in this filing.
- **EARTHKIND ENERGY INC**: O&R received a proposal from EarthKind Energy Inc. for a program focused on solar thermal projects. O&R's Existing Buildings Program has a custom incentives component where measures like solar thermal may be an installed option based on customer payback or cash flow analysis. Solar thermal may qualify in this Program. O&R encourages Earthkind to participate in O&R's programs as a vendor integrated within its programs rather than as an independent administrator. O&R will contact EarthKind, provide them with a copy of this filing and solicit its interest in participating in O&R proposed Existing Buildings Program.
- **POSITIVE ENERGY SERVICES**: O&R received a proposal from Positive Energy Services ("PES") for its Home Energy Reporting System ("HERS") Program. This HERS Program, which uses data mining and behavioral psychology, relies on behavioral changes or actions taken by the customer to reduce consumption. While O&R has held discussions with PES, O&R will continue discussions to assess if this concept may be incorporated in the education and outreach strategies for its residential programs.

2. EXISTING HOMES PROGRAM

2.1. PROGRAM DESCRIPTION. This Existing Homes Program will target existing residential customers to achieve comprehensive energy savings. Residential customers with electric space heat will initially be targeted, although other customers also would be eligible depending on electric space heat participation rates. Low-income customers wanting to participate will be directed to NYSERDA's Empower NY program. The Existing Homes Program will provide both O&R and its customers with immediate and long-term benefits through a residential home audit and the direct installation of cost-effective measures. The Program is designed to accommodate customers who do not wish participate in NYSERDA's Home Performance Program where customers pay for an energy audit and the recommended installed measures. This program is designed to increase residential customer participation in energy efficiency by offering a substantially funded energy audit and free installation of approved measures through a contractor hired by O&R. Customers will contribute $100 toward the initial energy audit.

2.2. PORTFOLIO BALANCE. The Existing Homes Program efforts will be coordinated internally with the Residential ENERGY STAR HVAC Program, Residential Efficient Products Program, Residential Efficient Gas Equipment Program, and NYSERDA's residential programs to ensure consistency across programs on product eligibility requirements and rebate amounts. Low income customers will be referred to NYSERDA's EmPower NY program.

In the event that the Commission approves a gas utility program, O&R will coordinate and integrate the program through the proposed administrative and delivery mechanisms. In areas where O&R delivers electricity and NYSEG or Central Hudson delivers natural gas, O&R intends to work with the utilities to integrate all energy efficiency programs to offer customers the same features and benefits provided elsewhere. O&R will continue discussions with the utilities

regarding a similar integration strategy for a small portion of their service territories that overlap in Orange County.

2.3. PROGRAM ADMINISTRATION AND DELIVERY. Program implementation will be performed by a third party vendor selected by competitive bid who will provide day-to-day management of one or several DI contractors delivering relevant services, as well as recruiting and training any DI contractors. General program administration and oversight will be provided by the O&R Residential Program Administrator. The O&R Existing Homes Program third party vendor will provide a single point of contact for any O&R customers wishing to explore efficiency retrofit options, and schedule audits and receive direct installation services. To ensure the highest quality installation and appropriate diagnostic testing, the program will require all work to be done or supervised by technicians who have received certification from the Building Performance Institute (BPI) or a comparable credentialing organization. The third party vendor will provide O&R and its customers with "turn-key" services that include:

- Target marketing and program enrollment;
- Development of BPI certified DI contractor infrastructure;
- Development and implementation of DI contractor training programs;
- Provision of on-site residential customer audits;
- Identification and recommendations for efficiency improvements; and
- Direct installation of all customer accepted cost-effective recommended efficiency improvements in the customer's home.

2.4. MARKET BARRIERS. The primary market barriers to participation in existing homes retrofit programs include:

- Customer difficulty in identifying the correct measures;

- Customer difficulty in choosing a qualified installer even if the appropriate measure is chosen;[4]
- Lack of a duct sealing contractors;
- Reluctance of contractors to adequately train their technicians and purchase necessary diagnostic equipment;
- Installation costs discourage customers, particularly since there is no assurance that they have chosen the correct measures or a qualified installer[5].

Successful programs directly address each of these barriers through a combination of strategies designed to build consumer confidence in both the measure selection and installer selection process and to minimize participation costs. These activities may include:

- Direct installation of measures – duct sealing and air sealing – that are typically overlooked by most existing home contractors. These measures, plus CFL DI, would be done at no cost;
- Contractor arranging services to assist homeowners install recommended follow-up measures
- Direct O&R marketing and outreach efforts designed to drive customer demand for Program services;
- Technical assistance and training of contractors on energy efficient existing homes' installation practices;
- Verification (inspections and testing) of Program installations.

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[4] In a Residential Focus Group Summary Report prepared by Market Strategies International for the Office of Clean Energy in New Jersey, "upfront costs and distrust that contractors will work in the homeowner's best interest" were cited as big roadblocks to customers engaging in energy efficiency efforts. New Jersey Clean Energy Program Summary Report: Residential Focus Group, March 31, 2008.

[5] *Id.*

2.5. TARGET MARKET AND MARKETING APPROACH. The proposed program would be open to all O&R residential customers but will specifically target those with electric space heating and other high electric use customers. Program marketing will consist of direct target marketing to electric heat customers. If participation in the program is low, O&R will expand its marketing and consumer outreach efforts to all customers through bill inserts and select mass media efforts.

2.6. COORDINATION AND CO-BENEFITS. O&R is working to ensure there is no customer or contractor confusion surrounding the eligibility and standards of this Program. There are currently no other entities offering a similar direct install program in the O&R service territory at this time. Energy efficiency programs generally provide positive impacts for the economy, housing stock, environmental justice, and reductions in air and water pollution. This will be true of O&R's proposed Existing Homes Program. ACEEE estimates that investments in energy efficiency programs result in a job multiplier of 13.5 jobs per million dollars of investment as compared to only 2.4 for utility supply-side investments.[6] The proposed budget for the Existing Homes program of $1,514,347 over the three year period would generate approximately 20 jobs through stimulated demand for BPI trained and certified contractors in the service territory. While substantial savings will accrue to homeowners and tenants as a result of O&R proposed Existing Homes Program, dramatic improvements to the housing stock are not expected. This is a result of PSC budget constraints that limit the ability of O&R to aggressively pursue tangible improvements in existing housing stock, which tend to be more costly per unit of savings than other residential efficiency efforts. Environmental justice will be improved because of the avoided need for future generation and T&D infrastructure investments, which often disproportionately effect disadvantaged

[6] Laitner, Elliott, Eldridge, *The Economic Benefits of an Energy Efficiency and Onsite Renewable Energy Strategy to Meet Growing Electricity Needs in Texas,* ACEEE, September 2007.

sectors of the economy. Reductions in water pollution, CO_2 and other emissions are also expected.

2.7. Target End Uses, Recommended Technologies, and Financial Incentives.

For the free direct installation component, targeted end-uses include:

- Incandescent lighting: Direct installation of pre-approved CFLs for all participants for all sockets fitted with incandescent lamps except those in low-use locations;
- Electric water heater: DHW measures (i.e. low flow devices) when electric hot water is present;
- Space conditioning: Air sealing for sites that are electrically heated or have central air conditioning;
- Space conditioning: Duct sealing for sites that have central air conditioning with ducts located in the attic;
- Home Assessment: Identification of remaining efficiency opportunities to be obtained through program follow-on services. Analysis of customer savings and costs, including all available O&R rebates.

For the follow-up services component the services and measures include:

- Space conditioning: Insulation for sites that are electrically heated or have central air conditioning and with attic insulation levels averaging less than R-27;
- Space conditioning: High SEER/EER CAC installations (including early retirement) with quality installation verification (QIV) though O&R's ENERGY STAR HVAC Program;

- Space conditioning: Instrumented tune-ups of existing central cooling equipment;
- Appliances: Early retirement and replacement of inefficient appliances;
- Appliances: Identification and removal of the under-used second refrigerators;
- Pool pumps: Replacement of inefficient pool pumps with efficient two-speed or variable speed drives.

Other technologies used to ensure the savings will include:

- High-quality ENERGY STAR CFLs;
- Low-flow hot-water devices (e.g., shower-heads, faucet aerators) and tank and pipe insulation as applicable;
- Blower door directed air sealing;
- Pressure-differential diagnostic techniques and approved air and duct sealing materials;
- Approved insulation materials and installation techniques;
- Equipment efficiencies higher than 2009 ENERGY STAR (14.5 SEER/12.0 EER) levels.

To calculate the number of participants in each year, the number of customers receiving installed CFLs represents the number of participants in the program as it is assumed that all participants will receive the CFLs. The projected cumulative number of participants through 2011 is 713 and the projected number of participants through 2015 is 1,664, or 0.8% of O&R's forecasted 2015 Residential Customer base.

Residential Existing Homes Program Measure Detail

Measure Name	Customer Rebate ($)	Measure Life	Participants/year 2008	2009	2010	2011
insulation R-19 to R-38 attic	400	30	-	6	39	67
air sealing	250	15	-	6	39	67
replace 10 windows/doors	175	20	-	6	39	67
install 2 new light fixtures	30	15	-	2	11	18
Pool pump timer	350	10	-	1	9	16
Refrigerator 2nd remove	35	9	-	1	5	9
install 30 CFLs - direct install	467	7	-	30	177	506
air sealing - direct install	250	15	-	28	163	465
Duct Sealing - direct install	200	10	-	10	57	163
	Total Participants		-	88	539	1,378

2.8. DEMAND REDUCTION AND SYSTEM BENEFITS.

The Program spending of $1,514,347 will provide by 2011 estimated energy savings of 1,000 MWH and reduce peak demand by 0.4 MW at a program TRC Benefit Cost Ratio, excluding the utility incentive, of 1.1 and 1.2 including Carbon. These estimates will be informed by the results of the impact evaluations conducted in 2010 as described in section 3.7.2. The Peak Coincidence Factor of MWH saved in 2015 for the Residential Existing Homes Program is 0.30.

Residential Existing Homes Program Costs and Energy Summary

	4Q2008	2009	2010	2011	Total
Energy Savings (MWh)	-	44	267	689	1,000
Demand Reduction (MW)	-	0.0	0.1	0.3	0.4
Total Resource Costs ($)	-	307,645	548,368	940,115	1,796,128
Participant (Net of Incentives) ($)	-	12,581	83,709	185,491	281,781
Utility Costs ($)	-	295,064	464,659	754,624	1,514,347

Residential Existing Homes Program Budget Detail (nominal $)

	2008	2009	2010	2011	Total
Customer Incentives	-	28,125	174,275	467,420	669,820
Prgrm Plan. & Admin	-	50,381	52,382	52,510	155,273.3
Prgrm Mrkting & Trade Ally	-	76,875	78,797	64,613	220,285
Program Implementation	-	124,535	141,939	152,240	418,713
Eval. & Mrkt Rsrch	-	15,148	17,266	17,841	50,255
Total Utility Costs	-	295,064	464,659	754,624	1,514,347
Non-Incentives Costs	-	266,939	290,384	287,204	844,527

Residential Existing Homes Program Total Resource Cost Effectiveness

	Excluding utility incentive		Including utility incentive	
	Without CO2	With CO2	Without CO2	With CO2
NPV Benefits (million 2008$)	1.7	1.7	1.7	1.7
NPV Costs (million 2008$)	1.5	1.5	1.5	1.5
BCR	1.13	1.17	1.10	1.14

3. Evaluation of Existing Homes Program

3.1. Program Background. This Existing Homes Program will target existing residential customers to achieve comprehensive energy savings. Residential customers with electric space heat initially will be targeted, although other customers also would be eligible depending on electric space heat participation rates. Low-income customers wanting to participate will be directed to NYSERDA's Empower NY. The Program will provide customers with immediate and long-term benefits through a residential home audit and the direct installation of cost-effective measures.

3.2. Program Objectives. The objective of this resource acquisition program is to acquire durable savings in energy and peak demand usage among residential customers with electric space heat. The program will focus on cost-effective direct install retrofit (early retirement) efficiency opportunities. The program will be implemented by an outside contractor, who will provide "turn-key" services to O&R and its customers.

3.3. Program Theory. The Program is designed to overcome several market barriers identified in Section 2.4. In addition, this residential market segment often does not have natural gas available for space and water heating and their energy use if often much higher than an average dual fuel customer. While non-electric space heating customers will be eligible to participate, electric space heating customers will be targeted initially. O&R will coordinate the delivery of this Program with planned and future programs, including the Residential Gas Efficient Equipment Program, the Residential Efficient Products Program, the

Residential ENERGY STAR HVAC Program, and NYSERDA's suite of residential programs, where applicable.

3.4. ANTICIPATED SAVINGS. The Existing Homes Program will result in annual savings of approximately 333 MWH and 133 KW per year.

3.5. PROGRAM SCHEDULE. O&R plans to begin offering this Program to customers as soon as possible following Commission approval.

3.6. EVALUATION APPROACH- GENERAL. Year One evaluation efforts will focus on evaluating how the Program is operating during program start-up with an objective of identifying enhancements that can be made to implementation efforts that may contribute to improved results.

In Year Two, the focus will be on quantifying achieved energy and demand savings based on pre- and post-installed measures, the operation of equipment installed, and the persistence of savings. Since this program is a direct install program, data from pre- and post-measure installation will be collected by the contractor upon site visits. Additional process evaluation efforts may be completed in program Year Three.

O&R anticipates that its evaluation efforts will be informed by the ongoing efforts of the Evaluation Advisory Group and by collaboration with the other utilities in the State that are planning to implement a similar program. If appropriate, O&R will participate in jointly sponsored evaluation studies with the other utilities.

3.7. EVALUATION APPROACH- DETAILED.

3.7.1. YEAR ONE EVALUATION

In 2009, evaluation efforts will focus on identifying how the Program is operating during the start-up phase, with the objective of identifying improvements that can be made to program implementation efforts. O&R plans to initiate a process evaluation in support of these efforts. An independent evaluation expert will be retained through a competitive solicitation to complete this work. This RFP will be issued as soon as the Program is approved. O&R will request interim reports from the selected contractor so that modifications to the implementation effort can be adopted quickly where it appears that a change is likely to lead to improved results in the Program. A final report summarizing results from the process evaluation will likely be completed by year-end 2009.

PROCESS EVALUATION

The first year process evaluation will document Program processes during start-up and will gather the following information:

- Level of customer satisfaction;
- Effectiveness of the Program delivery mechanism from the position of the program delivery contractors, program customers, trade allies and other key stakeholders. Issues to be addressed include: Whether the delivery mechanism differed from the program plan, and if so, why it differed;
- Effectiveness of program promotion;
- Remaining barriers to program participation including an assessment of why some customers choose to not participate in the program;

- Identification of lessons learned and specific actionable recommendations for program improvement; and
- A review of program tracking databases so that data that will likely be required to support future program evaluation efforts is being collected.

As part of the process evaluation plan, O&R will survey participating and non-participating customers as well as trade allies who have and have not promoted the program.

The desired result of this Process Evaluation is to identify and implement actionable improvement procedures for cost-effectively administering the Program in a manner that produces significant and cost-effective savings for O&R's customers.

3.7.2. YEAR TWO EVALUATION

IMPACT EVALUATION.

The Impact Evaluation will quantify the energy and demand savings attributable to Program efforts based on pre- and post-installation measure data and how the equipment installed through the Existing Homes Program is actually operating. As a direct installation program, contractors will obtain actual pre- and post-installation data and the impact evaluation contractor will be retained as soon as possible in order to be sure that all relevant data is collected. O&R anticipates completing an impact evaluation of the Existing Homes Program in 2010 using industry-accepted methods of analysis.

IMPACT EVALUATION METHODOLOGY. An independent evaluation consultant will be hired through a competitive solicitation. Firms submitting bids will recommend an impact evaluation approach appropriate for this type of program that will produce results that meet the precision requirements set forth in the guidelines issued through the Evaluation Advisory Group. Possible evaluation approaches may include a billing data analysis, an engineering simulation model, metering, or some other approach. This analysis may include surveys with program participants and with trade allies in an effort to arrive at net savings attributable to program efforts. The results of the impact evaluation will be used to refine expectations about future program savings, and may be used to modify future programs. Results from this study are anticipated by year-end 2010. Expected measure lives and time differentiated energy and demand savings will be quantified and verified so the impacts can be relied on by the New York Independent System Operator and T&D system planners. Demand savings will be measured coincident with NYISO system peak.

- **NET TO GROSS ANALYSIS.** Prior to any additional analysis being conducted, O&R will use a 5% reduction for free-ridership net of spillover. The net to gross realization rate is represented as a ratio that compares the gross savings of a program to the energy savings attributable to the program. Energy savings are estimated after adjusting for factors such as measurement error, measurement installation quality, behavioral effects, and the actions taken by program participants and non-participants absent of the program such as free-ridership and spillover. It is anticipated that assumptions for these factors of adjustment will be validated via a participant and non-participant surveys in year two of program implementation. However, the evaluation consultant may suggest other methods for estimating these adjustment factors based on their evaluation experience and best practices.

- **BENEFIT COST ANALYSIS.** Benefit cost analysis is performed at the measure and program level. O&R will conduct benefit cost analysis on any new technologies being considered for this Program. In addition, O&R will review, and if necessary, redo measure screening based on information obtained from their evaluation efforts. Benefit cost tests have been performed as described in Section 1.6.1.
- **BUDGET.** Consistent with the Working Group III recommendation in the EEPS proceeding, O&R has budgeted approximately 5% of program implementation costs to fund evaluation efforts. O&R's annual budget for evaluation is approximately $16,751.
- **SAMPLING STRATEGIES AND DESIGN AND DATA RELIABILITY STANDARDS.** Consistent with the Evaluation Plan Guideline for EEPS Program Administrators and as recommended by Working Group III, O&R's goal for estimating gross savings at the program level is at the 90 percent confidence interval, within +/- 10 percent precision. O&R will develop sampling protocols for all of its evaluations based on this standard.
- **STEPS TO IDENTIFY AND MITIGATE THREATS TO DATA RELIABILITY.** O&R will review the evaluation plan submitted by the selected evaluation contractor for consistency with the Evaluation Advisory Group guidelines, the requirement to maintain a 90% confidence interval within +/- 10 % precision and the overall need to identify and mitigate threats to reliability of the results. The evaluation contractor will be required to demonstrate data reliability to the greatest practical extent, including methods for minimizing systematic and random error and techniques for reducing uncertainty introduced by necessary assumptions and adjustments to the data.

- **DATA COLLECTION AND MANAGEMENT PROCESS.** Program data will be collected from customer application forms, site visits and surveys of participants and non-participants. O&R's tracking system will support program evaluation through the collection of all relevant data pertaining to customer rebates. Customer name, account, premise level and other non-program specific data will be captured in the system. Measure specific data, as appropriate for each program, will also be captured. Examples of measure specific data that will be collected can include[7]:

    - Date of contract/agreement to install measure(s);
    - Date of beginning of installation process;
    - Installation completion date;
    - Installation contractor;
    - Installation location;
    - Project or work order number;
    - Type of measure;
    - Annualized energy savings;
    - Measure life;
    - Total measure installed cost;
    - Incremental measure cost;
    - Incentive payment amount;
    - Project completion date;
    - Evaluation inspection/commissioning date;
    - Date of evaluation of measure or program;
    - Types of evaluation conducted; and
    - Result of evaluation.

[7] Please note that not of all the measure specific data listed are going to be captured for the Programs.

- **EVALUATION TEAM.** The Customer Energy Services Section Manager directs evaluation planning for O&R. O&R will explore conducting this evaluation with the other utilities implementing a similar program so that consistent approaches are used to arrive at evaluated program savings, using a common evaluation contractor. All program evaluations will be conducted by an evaluation contractor retained by O&R.
- **SCHEDULE AND DELIVERABLE DATES.** O&R does not have specific dates for commencing evaluation studies. However, a process assessment is scheduled to be completed in calendar year 2009 and an impact evaluation is scheduled for calendar year 2010.

3.8. REPORTING

O&R is proposing to provide the Commission with quarterly reports on the progress of program implementation. These reports will include information on actual expenses, customer participation, and savings realized compared to annual budgets and goals. These reports will also include information about ongoing program evaluation efforts. Each quarterly report will be submitted to the Commission approximately 45 days following the end of the calendar quarter.

In addition to quarterly reporting, O&R proposes to submit an annual report to the Commission for the purpose of updating its proposed budgets and goals for the coming year informed by evaluation findings, customer response to program services, and other relevant market intelligence. The proposed budget to be included in this annual update will reflect any under or over-spending from the prior year. Each annual report will be submitted to the Commission approximately 180 days following the end of the calendar year.

O&R is proposing to use a format in its report to the Commission that would include the following categories of information:

- Program Planning & Administrative Expenditures, year to date;
- Program Marketing Expenditures, year to date;
- Customer Incentive Expenditures, year to date;
- Program Implementation Expenditures, year to date;
- Evaluation & Market Research Experience, year to date;
- Total Expenditures, year to date;
- Program Year Budget, year to date;
- Annual Budget;
- Number of Rebates (or Participants), year to date;
- Participation Goal, year to date;
- Annual Participant Goal for Program Year;
- Total Savings (kWh, kW, ccfs), year to date;
- Savings Goal, year to date; and
- Annual Savings Goals for Program Year.

4. EFFICIENT PRODUCTS PROGRAM

4.1. PROGRAM DESCRIPTION. The Efficient Products Program will support the stocking, promotion and sale of efficient lighting, appliances and other consumer products that are primarily sold at retail. The Program will work closely with both retailers and manufacturers to jointly promote these products to O&R's customers. While the program's principal focus will be residential customers, C&I customers will not be precluded from participating. For most products, efficiency levels will be set at or above ENERGY STAR specifications. Incentives will initially be offered directly to consumers as an instant or mail-in rebate. Over time, the program will work to move its incentives upstream to retailers and manufacturers.

4.2. PORTFOLIO BALANCE. Efficient Product Program efforts will be coordinated internally with the Residential ENERGY STAR HVAC Program, Existing Homes Program, Residential Efficient Gas Equipment Program and NYSERDA's residential programs to ensure consistency across programs on product eligibility requirements and rebate amounts. The Programs will also coordinate outreach to trade allies such as electrical contractors and lighting supply houses.

In the event that the Commission approves a gas utility program, O&R will coordinate and integrate the program through the proposed administrative and delivery mechanisms. In areas where O&R delivers electricity and NYSEG or Central Hudson delivers natural gas, O&R intends to work with the utilities to integrate all energy efficiency programs to offer customers the same features and benefits provided elsewhere. O&R continue discussions with the utilities regarding a similar integration strategy for a small portion of their service territories that overlap in Orange County.

4.3. PROGRAM ADMINISTRATION AND DELIVERY. The rebate process of the Efficient Products Program will be administered by O&R staff. O&R may, however, select a single field support contractor that will be procured through a competitive bid process. The O&R Residential Program Administrator will oversee all contractor activities and will establish annual program goals and performance metrics for the field support contractor. The field support contractor will be responsible for:

- Development of a retailer participation agreement;
- Retailer recruitment;
- Retailer sales staff training;
- Consultation with O&R on the development of product rebate forms, amounts and eligibility criteria;
- Placement of rebate coupons and point-of-purchase materials;
- Development and implementation of a co-op advertising offering;
- Development and implementation of marketing and outreach programs designed to inform consumers of the potential savings and improved quality of the efficient products
- Manufacturer and national/regional retail chain outreach;
- Tracking of national and state efficiency standards and ENERGY STAR specification developments;
- Development and implementation of a refrigerator recycling program. This activity will likely require the Program contractor to work with a subcontractor to provide these services.

4.4. MARKET BARRIERS. The primary market barriers to participation in the Efficient Products Program are:

- Higher initial costs for efficient products[8];
- Lack of understanding of lower lifetime ownership costs;
- Limited availability of a full line of certain products, (e.g., CFLs) and absence from key retail channels (e.g., drug stores and grocery stores);
- Perceptions of inferior quality and performance based on past experiences;
- Inability or reluctance of retailer sales staff to "upsell" to efficient products;

This Program employs several key strategies to overcome these barriers:

- Direct incentives to customers, retailers, and manufacturers to lower the initial cost for efficient products and to encourage the stocking, promotion and purchase of these products;
- Marketing and outreach to consumers to convey the energy, cost and environmental benefits of the program; and
- Training of retail sales staff to provide the information and skills necessary to upsell customers to efficient products.

4.5. TARGET MARKET AND MARKETING APPROACH. The target audience will be all residential customers, though O&R's C&I customers will not be precluded form participating. The Program will consider a variety of marketing approaches to encourage both consumer and trade ally participation, including, but not limited to:

  - Co-op advertising with retailers and manufacturers;
  - Point of purchase materials;

[8] See footnote 4.

- O&R's website, including an "opt-in" consumer newsletter;
- Quarterly retailer newsletter, which may be web-based;
- Mass media outreach, including direct mail and newspaper inserts, if appropriate and cost-effective. The Efficient Products Program may offer co-op advertising support for this and other retailer and manufacturer-initiated outreach;
- In store demonstrations and promotions;
- In-house corporate events; and
- Bill Inserts.

Where possible, the Program will leverage and coordinate with federal promotions such as the ENERGY STAR "Start with ENERGY STAR, Change the World" Campaign.

4.6. COORDINATION AND CO-BENEFITS. O&R is working to ensure there is no customer or contractor confusion surrounding the eligibility and standards of this Program. There are currently no other entities offering a similar rebate program in the O&R service territory. O&R has discussed the Efficient Products Program with NYSERDA and has discovered that NYSERDA is developing a similar consumer products rebate program for home improvement projects. O&R will coordinate with NYSERDA and neighboring utilities to ensure mitigation of customer and contractor confusion on all energy efficient programs. Energy efficiency programs generally provide positive impacts for the economy, housing stock, environmental justice, and reductions in air and water pollution. This will be true of O&R's proposed Efficient Products Program with the exception of job creation and housing stock. While substantial savings will accrue to homeowners and tenants as a result of O&R proposed Existing Homes Program, dramatic improvements to the housing stock are not expected. This is a result of PSC

budget constraints that limit the ability of O&R to aggressively pursue tangible improvements in existing housing stock, which tend to be more costly per unit of savings than other residential efficiency efforts. Environmental justice will be improved because of the avoided need for future generation and T&D infrastructure investments, which often disproportionately effect disadvantaged sectors of the economy. Reductions in water pollution, CO_2 and other emissions are also expected.

4.7. TARGET END USES, RECOMMENDED TECHNOLOGIES, FINANCIAL INCENTIVES.

The targeted end uses of the Efficient Products Program will be lighting, appliances, pool pumps, and consumer electronics. More specifically, the following products will be promoted and rebated.

- ENERGY STAR CFLs and fixtures;
- ENERGY STAR solid state lighting fixtures, subject to cost-effectiveness screening;
- ENERGY STAR "Plus" refrigerators and clothes washer, with eligibility typically tied to the then-current highest CEE;
- ENERGY STAR and above room air conditioners (RAC);
- ENERGY STAR dehumidifiers.
- Pool pumps – two or multi-speed pumps and controls; timers;
- Refrigerator recycling – removal of second refrigerators and early retirement of primary refrigerators.

O&R will also undertake consumer education efforts on consumer electronics. If specific, cost-effective consumer electronics opportunities arise, O&R may offer incentives.

O&R is researching the potential for a joint pilot program with NYSERDA that could add an additional measure to the Efficient Products Program, the Smart Power Strip. If O&R decides to include the measure to the program, a supplement to this program will be filed.

Incentives amounts will vary depending on the total and incremental cost of the measure, and on product availability. Initially, rebates will be directed to the consumer. Over time, efforts will be made to move incentives upstream to retailers and manufacturers to better leverage ratepayer funding and trade ally interest. Lighting will be the initial focus of such upstream efforts, followed by appliances and possibly consumer electronics.

To calculate the number of participants in each year, the number of installed CFLs divided by an assumed average of 15 CFLs per participant. This represents the number of participants in the program as it is assumed that all participants in this program will receive the CFLs. The projected cumulative number of participants through 2011 is 16,946 and the projected number of participants in 2015 is 39,541 or 19.7% of O&R's forecasted 2015 Residential Customer base.

Residential Efficient Products Program Measure Detail

			Measures/year			
Measure Name	Customer Rebate ($)	Measure Life	2008	2009	2010	2011
Energy Star screw base CFL	2	7	-	34,467	103,401	116,326
Energy Star Fixture	15	15	-	345	862	905
Pool pumps	250	10	-	-	-	80
Refrigerator 2nd remove	35	9	-	-	-	950
refrigerator - bottom freezer _ ES	25	17	-	28	45	49
refrigerator - bottom freezer _ Tier 2	40	17	-	42	67	74
refrigerator - top freezer _ ES	25	17	-	56	89	98
refrigerator - top freezer _ Tier 2	40	17	-	56	89	98
refrigerator - top freezer _ Tier 3	75	17	-	28	45	49
refrigerator - side x side _ Tier 2	40	17	-	56	89	98
refrigerator - side x side _ Tier 3	75	17	-	28	45	49
Clotheswasher - Tier 3 (2.2)	50	14	-	109	434	478
Dehumidifier	10	11	-	109	175	192
Room AC - 8000 Btu/hr - E Star	20	10	-	170	271	299
Room AC - 8000 Btu/hr - CEE Tier 1	35	10	-	151	241	265
Room AC - 8000 Btu/hr - CEE Tier 2	50	10	-	57	90	100
		Total Measures	-	35,700	105,944	120,110

4.8. DEMAND REDUCTION AND SYSTEM BENEFITS. The Program spending of $2,466,928 will provide by 2011 estimated energy savings of 19,618 MWH and reduce peak demand by 2.7 MW at a program TRC Benefit Cost Ratio, excluding the utility

incentive, of 5.0 and 5.2 including Carbon. These estimates will be informed by the results of the impact evaluations conducted in 2010 as described in section 3.7.2. The Peak Coincidence Factor of MWH saved in 2015 for the Residential Efficient Products Program is 0.85.

Residential Efficient Products Program Costs and Energy Summary

	4Q2008	2009	2010	2011	Total
Energy Savings (MWh)	-	2,474	7,329	9,815	19,618
Demand Reduction (MW)	-	0.4	1.0	1.3	2.6
Total Resource Costs ($)	-	578,884	1,057,039	1,438,002	3,073,925
Participant (Net of Incentives) ($)	-	71,230	180,701	355,066	606,996
Utility Costs ($)	-	507,654	876,338	1,082,936	2,466,928

Residential Efficient Products Program Budget Detail (nominal $)

	2008	2009	2010	2011	Total
Customer Incentives	-	103,510	282,701	350,534	736,745
Prgrm Plan. & Admin	-	191,952	192,069	192,535	576,556.0
Prgrm Mrkting & Trade Ally	-	64,063	105,063	107,689	276,814
Program Implementation	-	124,170	254,041	379,377	757,589
Eval. & Mrkt Rsrch	-	23,960	42,465	52,800	119,225
Total Utility Costs	-	507,654	876,338	1,082,936	2,466,928
Non-Incentives Costs	-	404,144	593,637	732,402	1,730,184

Residential Efficient Products Program Total Resource Cost Effectiveness

	Excluding utility incentive		Including utility incentive	
	Without CO2	With CO2	Without CO2	With CO2
NPV Benefits (million 2008$)	13.1	13.6	13.1	13.6
NPV Costs (million 2008$)	2.6	2.6	3.2	3.2
BCR	5.0	5.2	4.1	4.2

5. Evaluation of Efficient Products Program

5.1. Program Background. The Efficient Products Program will provide rebates to customers who install energy efficient equipment in order to reduce the upfront increased cost of the more energy efficient alternative. Incentives will initially be offered directly to customers and over time offered upstream to retailers and manufacturers.

The Efficient Products Program will support the stocking, promotion and sale of efficient lighting, appliances and other consumer products that are primarily sold at

retail. The program will work closely with both retailers and manufacturers to jointly promote these products to O&R's customers. While the program's principal focus will be residential customers, C&I customers will not be precluded from participating. For most products efficiency levels will be set at or above ENERGY STAR specifications. Incentives will initially be offered directly to consumers as an instant or mail-in rebate. Over time, the program will work to move its incentives upstream to retailers and manufacturers.

5.2. PROGRAM OBJECTIVES. The objective of the Efficient Products Program is to increase the penetration of high efficiency equipment in O&R's service territory and educate and motivate consumers on the proper choice to purchase energy efficient equipment. Under the Program, incentives will be provided to residential customers who purchase the efficient alternative. By supporting the stocking, promotion and sale of efficient products, the Program will create a demand and assist in the overall transformation of the marketplace to energy efficient products.

5.3. PROGRAM THEORY. The Program is designed to overcome several market barriers identified and described in Section 4.4. As customers become more aware of energy efficient products and more familiar with the economic and environmental benefits of reduced consumption, consumers will create a demand for energy efficient measures and begin to transform the marketplace. Retailers will stock more efficient equipment and customers will look to qualified contractors for services. In addition, O&R will coordinate the delivery of this Program with planned and future programs, including the Residential Gas Efficient Equipment Program, the Residential ENERGY STAR HVAC Program, the Residential Existing Homes Program and NYSERDA's Home Performance with ENERGY STAR Program. The Residential Efficient Products Program is designed to also support and enhance NYSERDA's Home Performance with ENERGY STAR program by providing rebates and making overall home performance activity more cost effective to implement.

5.4. ANTICIPATED SAVINGS. Approximately 5,648 customers per year are estimated to participate in this Program through 2011, resulting in annual savings of approximately 6,539 MWH and 900 KW per year.

5.5. PROGRAM SCHEDULE. O&R plans to begin offering this Program to customers as soon as possible following Commission approval.

5.6. EVALUATION APPROACH – GENERAL. Year One evaluation efforts will focus on evaluating how the Program is operating during Program start-up with an objective of identifying enhancements that can be made to implementation efforts that may contribute to improved results. In Year Two, the focus will be on quantifying achieved energy and demand savings based on post-installation operation of equipment installed through the Efficient Products Program. Additional process evaluation efforts may be completed in program Year Three.

O&R anticipates that its evaluation efforts will be informed by the ongoing efforts of the Evaluation Advisory Group and by collaboration with the other utilities in the State that are planning to implement a similar program. If appropriate, O&R may participate in jointly sponsored evaluation studies with the other utilities.

5.7. DETAILED EVALUATION APPROACH

5.7.1. YEAR ONE EVALUATION
As described in Section 3.7.1 above.

5.7.2. YEAR TWO EVALUATION
As described in Section 3.7.2 above, with the exception of;

IMPACT EVALUATION

The Impact Evaluation will quantify the energy and demand savings attributable to Program efforts based on pre- and post-installation measure data and how the equipment installed through the Efficient Products is operating. As a rebate program, rebate forms will be designed to collect the appropriate data necessary

to calculate savings using statistically adjusted engineering algorithms. The impact evaluation contractor will be retained as soon as possible in order to be sure that all relevant data is collected and if other methods should be used to estimate savings in conjunction and support of the engineering algorithms. O&R anticipates completing an impact evaluation of the Efficient Products Program in 2010 using industry-accepted evaluation methods.

- **NET TO GROSS ANALYSIS.** Prior to any additional analysis being conducted, O&R will use a 5% reduction for free-ridership net of spillover.

- **BUDGET.** Consistent with the Working Group III recommendation in the EEPS proceeding, O&R has budgeted approximately 5% of program implementation costs to fund evaluation efforts. O&R's annual budget for evaluation is approximately $39,741.

5.8. REPORTING.

As described in Section 3.8 above.

6. RESIDENTIAL HVAC PROGRAM

6.1. PROGRAM DESCRIPTION. As described in O&R's August 21, 2008 Expedited Energy Efficiency filing 08-E-1003, the Residential ENERGY STAR HVAC Program fell short of its MWh goal. O&R requested that an increase in funding of $535,000 above the $1,317,201 three year spending total for the Expedited Program. With this increased spending O&R could increase its energy savings goal from 493 MWh to 949 MWh and maximize customer participation. The Company is also requesting and reflecting this expansion of the Expedited Residential HVAC Program as part of this filing. The program summary tables are shown below for the expanded Residential HVAC Program, the 60 day program, as filed, and the incremental difference requested in the 60 day filing and again in this 90 day filing.

The Residential HVAC Program will support the quality installation of efficient ENERGY STAR central air conditioners and heat pumps. According to O&R's Market Potential Study, approximately 30% of residential energy savings potential is attributable to inefficient HVAC equipment. Incentives will be offered directly to consumers and during the life of the program O&R will investigate the feasibility of upstream incentives to manufacturers and contractors. In addition, the Residential HVAC Program will train HVAC contractors in Quality Installation (QI) of new cooling systems. The Program will work closely with contractors, distributors, and manufacturers to jointly promote these products and services to O&R's customers.

6.2. PORTFOLIO BALANCE. The Residential ENERGY STAR HVAC Program efforts will be coordinated internally with the Residential Existing Homes Program, Residential Efficient Products Program, Residential Efficient Gas Equipment Program, and NYSERDA's residential programs to ensure consistency across programs on product eligibility requirements and rebate amounts. Program coordination is designed so that customers may engage in one-stop shopping and assist in determining if one or all programs may fit their needs. Low income customers will be referred to NYSERDA's EmPower NY.

In the event that the Commission approves a gas utility program, coordination and integration will be accomplished through program administration and delivery mechanisms. In areas where O&R delivers electricity and NYSEG or Central Hudson delivers natural gas, O&R intends to work with the utilities to integrate all energy efficiency programs to offer customers the same features and benefits provided elsewhere. O&R will continue discussions with the utilities regarding a similar integration strategy for a small portion of their service territories that overlap in Orange County.

6.3. PROGRAM ADMINISTRATION AND DELIVERY. The application and rebate process of the Residential HVAC Program will be administered by the O&R Residential Program Administrator. O&R will select a single HVAC Program Contractor through a competitive bid process to perform functions associated with outreach and training of HVAC contractors for the Program, as outlined below. O&R's Residential Program Administrator will be responsible for the application and rebate process, will oversee the HVAC Program Contractor's activities and will oversee the contractor's compliance with established annual program goals and performance metrics as established in the service agreement. The HVAC Program Contractor will be responsible for:

- Development of a HVAC contractor participation agreement;
- HVAC contractor recruitment and maintenance of a participating contractor list;
- HVAC contractor training on QI and other program requirements;
- Outreach to HVAC distributors;
- Consultation with O&R on the development of product rebate forms, amounts and eligibility criteria;
- Appropriate distribution of rebate application forms;

- Development and implementation of a quality assurance plan, including random checks of participating contractor installation and service jobs;
- Development and implementation of a co-op advertising offering with retailers, distributors and manufacturers in coordination with O&R;
- Manufacturer outreach, including tracking of new product introductions;
- Tracking of national and state efficiency standards and ENERGY STAR specification developments; and
- Tracking of, and coordination with, national and regional trade association efforts to promote the installation of efficient central air conditioners and heat pump systems, e.g., Air Conditioner Contractors of America's (ACCA) QI specification and ENERGY STAR's QI pilot program.

The Residential HVAC Program efforts will be coordinated internally with the Residential Efficient Gas Equipment Program, the Efficient Products Program, and the Existing Home Program so that a consistent message on efficient HVAC systems is conveyed to both consumers and trade allies. Contractor training will be coordinated, as well as rebate eligibility requirements and amounts. O&R will consider using the same contractor to deliver all residential rebate programs.

6.4. MARKET BARRIERS. The primary market barriers to participation in the Program are:

- Higher initial costs for efficient products and services[4];
- For many HVAC measures, the benefits to homeowners – lower operating costs - do not reflect other potential benefits such as the value of avoided capacity that results from operating more efficient units on peak day;
- Poor contractor installation practices and failure to understand the benefits of Quality Installation and Verification (QIV);

- Lack of a local duct sealing contractors;
- Reluctance of contractors to adequately train their technicians and purchase necessary diagnostic equipment;
- Inadequate code enforcement on system sizing;
- Failure of homeowners to understand the benefits from proper HVAC installation, i.e., QIV and duct sealing;
- Distributor reluctance to stock more efficient equipment absent demand for it; and
- Lack of contractor sales skills to "upsell" homeowners on the benefits of efficient equipment and QI.

This Program employs several key strategies to overcome these barriers:

- Direct incentives to customers to encourage QI and the stocking of efficient cooling equipment and heat pump systems as a result of customer demand;
- Marketing assistance to contractors, distributors and manufacturers to promote to customers the energy and environmental benefits of high efficiency HVAC efficiency measures;
- Direct O&R marketing and outreach efforts designed to increase customer demand for Program services;
- Technical and sales assistance and training of contractors on energy efficient HVAC specification and installation practices; and
- Verification (inspections and testing) of Program installations, including verifying QI where applicable.

6.5. TARGET MARKET AND MARKETING APPROACH. All residential customers installing new or replacing central air conditioning units in existing homes are the target audience. Marketing efforts for this program will be primarily combined with the Residential Efficient Gas Equipment Program as they are rebates programs targeting the same market segment. However, marketing efforts will be combined for the entire suite of residential programs. The Programs will consider a variety of marketing approaches to encourage both consumer and trade ally participation, including, but not limited to:

- Co-op advertising with contractors, distributors and manufacturers;
- O&R's website;
- Mass media outreach, including direct mail and newspaper inserts, if appropriate and cost-effective;
- Quarterly trade ally newsletter, which may be web-based;
- Contractor and distributor breakfast meetings;
- Attendance at local and regional trade association meetings, e.g., ACCA and ASHRAE; and
- Bill inserts.

Where possible, the Program will leverage and coordinate with federal promotions such as the ENERGY STAR "Start with ENERGY STAR, Change the World" Campaign.

6.6. COORDINATION AND CO-BENEFITS. O&R is working to ensure there is no customer or contractor confusion surrounding the eligibility and standards of this program. There are currently no other entities offering a similar rebate program in the O&R service territory at this time. Energy efficiency programs generally provide positive impacts for the economy, housing stock, environmental justice, and reductions in air and water pollution. This will be true of O&R's proposed Residential ENERGY STAR HVAC Program. ACEEE estimates that investments in energy efficiency programs result in a job multiplier of 13.5 jobs per million dollars of investment as

compared to only 2.4 for utility supply-side investments.[3] The proposed budget for the Residential ENERGY STAR HVAC Program of $1,917,383 over the three year period would generate approximately 26 jobs through stimulated demand for trained and certified contractors in the service territory. While substantial savings will accrue to homeowners and tenants as a result of O&R proposed Residential ENERGY STAR HVAC Program, dramatic improvements to the housing stock are not expected. This is a result of PSC budget constraints that limit the ability of O&R to aggressively pursue tangible improvements in existing housing stock, which tend to be more costly per unit of savings than other residential efficiency efforts. Environmental justice will be improved because of the avoided need for future generation and T&D infrastructure investments, which often disproportionately effect disadvantaged sectors of the economy. Reductions in water pollution, CO_2 and other emissions are also expected.

6.7. Target End Uses, Recommended Technologies, Financial Incentives

The targeted end uses of the Residential HVAC Program will be cooling and heating with the principal focus on cooling. O&R will provide direct incentives to customers through a mail-in rebate form. O&R will explore other program features to overcome barriers to participation as the program progresses. More specifically, the following products and services will be promoted and rebated:

- ENERGY STAR central air conditioners and air source heat pumps (HP) equipment incentives with quality installations encouraged but not required;
- Efficient fans as part of a new oil or gas furnace; and
- Duct sealing of new HVAC distribution systems.

In 2011, all system installations will be as per the ACCA installation specification. It is anticipated that by 2011 there will be an ENERGY STAR installation specification based on the ACCA specification.

Initially, rebates will be paid directly to the customer to offset a portion of the incremental cost of installing more efficient HVAC equipment and services. The

table below sets forth the proposed rebate levels and the anticipated annual participants.

The projected total number of participants through 2011 for the Program is 2,414. The estimated participants through 2015 are 5,633 or 2.8% of the forecasted 2015 Residential Customer base.

Residential ENERGY STAR HVAC Program Measure Detail

Measure Name	Customer Rebate ($)	Measure Life	Participants/year 2008	2009	2010	2011
CAC SEER 15 install with QI	500	15	-	30	140	289
CAC SEER 16 install with QI	575	15	-	12	70	156
CAC SEER 15 install without QI	300	15	11	70	60	-
CAC SEER 16 install without QI	400	15	4	28	30	-
Duct Sealing existing SEER 12 w/oQIV*	200	10	-	-	-	-
Duct Sealing existing SEER 12 w/QIV*	200	10	-	-	-	-
Duct Sealing for new w/avg SEER 15 & QIV	200	10	-	42	210	445
QI - no EE equipment	75	15	-	80	178	267
Tune up of existing units*	75	5	-	-	-	-
Furnace Fans - new units	200	15	6	61	86	138
Heat Pump DHW*	1,000	13	-	-	-	-
	Total Participants		22	324	774	1,294

* Promoted beginning in 2012

O&R may increase or decrease rebates as markets or conditions change, and to support local, regional and national efforts. Over time, efforts will be made to move incentives upstream to distributors and manufacturers to better leverage ratepayer funding and trade ally interest. Such efforts may be coordinated through participation in NEEP's on-going upstream engagement with the HVAC industry through their Negotiated Cooperative Promotion (NCP) process.

6.8. DEMAND REDUCTION AND SYSTEM BENEFITS. The Program spending of $1,917,383 will provide by 2011 estimated energy savings of 949 MWH and reduce peak demand by 1.8 MW at a program TRC Benefit Cost Ratio, excluding the utility incentive, of 2.3 and 2.3 including Carbon. These estimates will be informed by the results of the impact evaluations conducted in 2010 as described herein section 3.7.2. The Peak Coincidence Factor of MWH saved in 2015 for the Residential ENERGY STAR HVAC Program is 0.06.

The Expedited Residential ENERGY STAR HVAC Program filed on August 21, 2008, was budgeted $1,319,201 delivering 493 MWH of savings with a TRC BC ratio excluding utility incentives of 1.5 with and without Carbon.

Below are the total program cost and energy summary results, including the 60 day filing and the requested increased funding level:

Residential ENERGY STAR HVAC Program Costs and Energy Summar

	4Q2008	2009	2010	2011	Total
Energy Savings (MWh)	8	122	301	518	949
Demand Reduction (MW)	0.0	0.2	0.6	1.0	1.8
Total Resource Costs ($)	86,225	450,825	632,915	850,438	2,020,403
Participant (Net of Incentives) ($)	2,763	24,592	34,099	41,566	103,020
Utility Costs ($)	83,463	426,233	598,815	808,872	1,917,383

Residential ENERGY STAR HVAC Program Budget Detail (nominal $)

	2008	2009	2010	2011	Total
Customer Incentives	6,676	87,196	235,412	419,919	749,203
Prgrm Plan. & Admin	16,364	102,475	112,832	122,362	354,032.2
Prgrm Mrkting & Trade Ally	25,000	76,875	78,797	80,767	261,439
Program Implementation	31,250	138,375	141,834	145,380	456,840
Eval. & Mrkt Rsrch	4,173	21,312	29,941	40,444	95,869
Total Utility Costs	83,463	426,233	598,815	808,872	1,917,383
Non-Incentives Costs	76,787	339,037	363,404	388,953	1,168,180

Residential ENERGY STAR HVAC Program Total Resource Cost Effectiveness

	Excluding utility incentive		Including utility incentive	
	Without CO2	With CO2	Without CO2	With CO2
NPV Benefits (million 2008$)	3.9	4.0	3.9	4.0
NPV Costs (million 2008$)	1.7	1.7	1.7	1.7
BCR	2.3	2.3	2.2	2.3

Below is the incremental portion to Expedited Filing 08-E-1003 on August 21, 2008:

Residential ENERGY STAR HVAC Program Costs and Energy Summary

	4Q2008	2009	2010	2011	Total
Energy Savings (MWh)	-	21	152	283	456
Demand Reduction (MW)	-	0	0	1	1
Total Resource Costs ($)	10,526	74,470	206,251	334,616	625,863
Participant (Net of Incentives) ($)	0	3,598	12,064	12,020	27,682
Utility Costs ($)	10,526	70,872	194,187	322,596	598,182

Residential ENERGY STAR HVAC Program Budget Detail (nominal $)

	2008	2009	2010	2011	Total
Customer Incentives	-	21,203	132,934	253,239	407,376
Program Planning & Admin	-	-	4,266	4,767	9,033
Program Marketing & Trade Ally	10,000	25,625	26,266	26,922	88,813
Program Implementation	-	20,500	21,013	21,538	63,050
Evaluation & Market Research	526	3,544	9,709	16,130	29,909
Total Utility Costs	10,526	70,872	194,187	322,596	598,182
Non-Incentives Costs	10,526	49,669	61,253	69,357	190,805

7. EVALUATION OF RESIDENTIAL HVAC PROGRAM

7.1. PROGRAM BACKGROUND. The Residential HVAC Program is an expansion of Residential HVAC Program originally filed in the Company's 60 day filing 08-E-1003 pursuant to the Commission's June 23 Order in Case 07-M-0548. The Program will support the quality installation of efficient cooling/heating equipment and promote efficient central air conditioners and heat pump systems. The Program will highlight the significance of Building Performance Institute (BPI) certification training offered by NYSERDA and encourage local contractors to become BPI certified. The Residential Program Administrator will work closely with contractors, distributors, and manufacturers to jointly promote these products and services to O&R customers. Incentives will initially be offered directly to customers and over time offered upstream to distributors and manufacturers. Three mechanisms will be used to promote these measures: 1) rebates for retail sale of ENERGY STAR HVAC products, 2) cooperative marketing with contractors, and 3) contractor training on Quality Installation. O&R will perform post-installation inspections of a random sample of participants to maintain quality assurance and installation standards. In the future, O&R may expand the program to include additional measures and possibly add direct incentives for trade allies as well as customers.

7.2. PROGRAM OBJECTIVES. The objective of the Residential HVAC Program is to increase the penetration of properly installed high efficiency air conditioning in O&R's service territory and train contractors on the importance of HVAC quality installations. Under the Program, incentives will be provided to residential customers who are installing new or replacement cooling systems, assuming that the installed measures meet or exceed ENERGY STAR efficiency levels. The Program will be administered by O&R

working with a selected vendor who will be responsible for marketing the Program to contractors and trade allies in O&R's service territory.

7.3. PROGRAM THEORY. The Program will support the quality installation of high efficiency equipment and is a rebate program for HVAC equipment. The Program will combine a customer education component with a financial rebate to facilitate the adoption of the energy efficient HVAC equipment. By educating customers on the financial and environmental benefits and providing a financial rebate, customers will make the right energy efficient choice. The Program is designed to overcome several market barriers identified and described in Section 6.4. In addition, O&R will coordinate the delivery of this Program with planned and future programs, including the Residential Gas Efficient Equipment Program, the Residential Efficient Products Program, and the Residential Existing Homes Program. The Residential Program is designed to also support and enhance NYSERDA's Home Performance with ENERGY STAR program by providing rebates and making overall home performance activity more cost effective to implement.

7.4. ANTICIPATED SAVINGS. Approximately 804 customers per year are estimated to participate in this Program, resulting in annual savings of approximately 316 MWH and 600 KW per year.

7.5. PROGRAM SCHEDULE. O&R plans to begin offering this Program to customers as soon as possible following Commission approval.

7.6. EVALUATION APPROACH – GENERAL. Year One evaluation efforts will focus on evaluating how the Program is operating during Program start-up with an objective of identifying enhancements that can be made to implementation efforts that may contribute to improved results. In Year Two, the focus will be on quantifying achieved energy and demand savings based on post-installation operation of equipment installed through the Residential HVAC Program. Additional process evaluation efforts may be completed in program Year Three.

O&R anticipates that its evaluation efforts will be informed by the ongoing efforts of the Evaluation Advisory Group and by collaboration with the other utilities in the State that are planning to implement a similar program. If appropriate, O&R may participate in jointly sponsored evaluation studies with the other utilities.

7.7. Detailed Evaluation Approach.

7.7.1. Year One Evaluation

As described in Section 3.7.1

7.7.2. Year Two Evaluation

As described in section 3.7.2, with the exception of;

Impact Evaluation

The Impact Evaluation will quantify the savings attributable to Program efforts based on how the equipment installed through the Program is actually operating. O&R anticipates completing an impact evaluation of the Residential HVAC Program in 2010 using industry-accepted methods of analysis.

O&R will explore conducting this evaluation with the other utilities implementing a similar program so that consistent approaches are used to arrive at evaluated program savings. However, at this point in time, without counsel from the Evaluation Advisory Group, O&R proposes the following for consideration as part of its program evaluation plan.

BUDGET. Consistent with the Working Group III recommendation in the EEPS proceeding, O&R has budgeted approximately 5% of program implementation costs to fund evaluation efforts. O&R's annual budget for evaluation of this program is approximately $29,498. O&R anticipates that the entire portfolio of programs will be evaluated by a single evaluation contractor in order to maximize the 5% spending allocation.

7.8. REPORTING

As described in Section 3.8

8. COMMERCIAL EXISTING BUILDINGS PROGRAM

8.1. PROGRAM DESCRIPTION. This Program will target all existing C&I customers with retrofit and lost opportunity services and particularly target large C&I customers with peak demand greater than 100 kW, as these represent a small number of customers but a majority of the total C&I energy use. There are also significant differences between large customers and small/medium size customers in their management structures, building operation expertise, and the capacity to undertake capital projects. While retrofit opportunities among small and medium customers are expected to be primarily captured with the proposed Small C&I Direct Install Program, these customers may participate in Existing Building Program as well, and will be specifically targeted for lost opportunity *(e.g.,* planned equipment replacement) opportunities.

8.2. PORTFOLIO BALANCE. Commercial Existing Building Program efforts will be coordinated internally with O&R's proposed Small C&I Direct Install Program and any other applicable NYSERDA programs to ensure consistency across programs on product eligibility requirements and rebate amounts. The Programs will also coordinate outreach to trade allies such as electrical and mechanical contractors and lighting supply houses to inform them of program. In the event that the Commission approves a gas utility program, coordination and integration will be accomplished through the proposed administrative and delivery mechanisms. In areas where O&R delivers electricity and NYSEG or Central Hudson delivers natural gas, O&R intends to work with the utilities to integrate all energy efficiency programs to offer customers the same features and benefits provided elsewhere. O&R will engage in discussions with the utilities regarding a similar integration strategy for a small portion of their service territories that overlap in Orange County.

8.3. PROGRAM ADMINISTRATION AND DELIVERY. This program will offer a menu of flexible services that can be customized as needed to meet individual customer requirements. Efforts include aggressive outreach (both to customers and other market participants), provision of technical analysis and services, financial services, and

general project assistance to minimize transaction costs and facilitate customer installations as described in detail below.

For large customers, the outreach and customer interaction and analyses will be coordinated and implemented by one or more contractors selected through a competitive bidding process. The contractor will establish direct relationships will all large customers to maximize the capture of both retrofit and lost opportunity projects. The framework for developing these relationships is through O&R's existing large power engineers and the implementation contractor. O&R program staff have developed long-term relationships with key customer staff and the goal of these relationships is to play a role integral to capital planning activities of as many large C&I customers as possible. Being invited to participate with customers at that level will require demonstrating value beyond electricity savings (e.g., finding resources to assist with power factor correction, demand management, capital needs, long term infrastructure planning, and other energy and non-energy issues). In this fashion, these relationships will ensure that the program can effectively capture opportunities when they arise, and advise customers in all their investment planning on energy using systems and equipment. Because this level of service requires significant personal contact, it will focus, at least initially, on the largest customers.

To capture efficiency opportunities when small/medium-sized customers purchase new equipment (whether for expansion or for natural replacement), the program will provide prescriptive or standardized incentives and custom incentives directly to the consumer. The program will include a variety of standardized "prescriptive" measures and incentives while promoting all cost-effective efficiency opportunities through a "custom" track. These will be widely promoted through general mass media as well as targeted outreach efforts including direct mail, trade association meetings and publications, and other strategies. Incentive forms will also be available on the O&R website and can be submitted online.

In addition to direct customer outreach and services, O&R will market the program upstream with all relevant market participants, including design professionals, equipment distributors, vendors and contractors. These efforts are particularly important to capture lost opportunities at the time of natural equipment replacement

because O&R program staff may not be engaged with customers at this time and customers often rely on these market participants to provide advice and product installation. As much as possible, the program will strive to leverage a wide range of market participants to serve as extended program marketers and promote projects and the program to their customers. O&R will consider possible upstream incentives *(e.g.,* distributor stocking incentives, contractor bonuses, architect and engineer design incentives, etc.) in the future.

O&R will offer, through the competitively selected contractor, technical assistance services customized to project needs. These will include detailed engineering analyses on larger and more comprehensive custom projects, as well as more simplified analysis and audits where appropriate. O&R will put in place contracts where O&R or the contractor can bring in appropriate technical expertise as necessary to facilitate analysis and sale of the efficiency project.

8.4. MARKET BARRIERS. The program's long-term goal is transforming markets such that most consumers and contractors take advantage of currently deployable high efficiency equipment and design. The program would seek to overcome various market barriers to achieve this goal including:

- split incentives between building owners who often make investment decisions and occupants who pay the energy bills;
- lack of awareness[9] and information on the benefits of efficiency on the part of consumers, contractors, engineers, and vendors;

[9] In a Business Focus Group Summary Report prepared by Market Strategies International for the Office of Clean Energy in New Jersey, "lack of awareness, inconvenience, complexity (red tape bureaucracy) and the demand participation places on scarce human resources" were cited as the most common non-financial roadblocks to participation. New Jersey Clean Energy Program Business Focus Groups Summary Report, December 2007.

- limited technical skills to address key elements of efficiency;
- perception that efficiency technologies may not perform as expected;
- focus on up-front costs[10] rather than long term operating costs.

The program would employ a number of important strategies to address these barriers:

- Financial incentives to offset the first costs of efficiency.
- Marketing and outreach to design professionals, vendors, contractors, ESCOs, and consumers to engage with relevant market allies throughout the specification, design and installation process. These allies then serve as a resource for customers, reducing the need to gather information on efficiency opportunities on their own.
- Technical assistance to design professionals, vendors, contractors, ESCOs, and consumers to assist in analyzing efficiency opportunities and educating decision makers about the technical and financial aspects of efficiency.

8.5. TARGET MARKET AND MARKETING APPROACH. The target market is all C&I existing customers, as well as relevant market participants involved in equipment, system and efficiency markets. It will focus on capturing all cost-effective efficiency opportunities, both for early retirement or retrofit[11] and lost opportunity.

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[10] In a Business Focus Group Summary Report prepared by Market Strategies International for the Office of Clean Energy in New Jersey, "twenty-Nine percent have considered energy saving measures that they have not implemented – primary roadblock is cost". New Jersey Clean Energy Program Survey Report performed by Market Strategies November 2007.

[11] In a Business Focus Group Summary Report prepared by Market Strategies International for the Office of Clean Energy in New Jersey, "there is a strong resistance to retrofitting with more efficient solutions

Approximately 500 of O&R's customers use more than 600,000 kWh annually, representing approximately 60% of O&R's total C&I energy use. These customers will be the focus of the contractor described above. All C&I customers, regardless of size, will be eligible to participate in the prescriptive and custom incentives offered for planned investment and replacement measures, as well as the technical assistance services.

As described above, other marketing efforts will include general mass media outreach, direct mail, personal contact, and outreach and training to all relevant market participants including architects, engineers, lighting designers, ESCOs, distributors, vendors and contractors.

8.6. COORDINATION AND CO-BENEFITS. O&R is working to ensure there is no customer or contractor confusion surrounding the eligibility and standards of this program. Energy efficiency programs generally provide positive impacts for the economy, building stock, environmental justice, and reductions in air and water pollution. This will be true of O&R's proposed C&I Existing Building Program. ACEEE estimates that investments in energy efficiency programs result in a job multiplier of 13.5 jobs per million dollars of investment as compared to only 2.4 for utility supply-side investments.[3] The proposed budget for the C&I Existing Building Program of $11,148,706 over the three year period would generate approximately 150 jobs through stimulated demand for trained and certified contractors in the service territory. While substantial savings will accrue to business owners as a result of O&R proposed C&I Existing Buildings Program, dramatic improvements to the commercial building stock are not expected. This is a result of PSC budget constraints that limit the ability of O&R to aggressively pursue tangible improvements in existing building envelope efficiency, which tend to be more costly per unit of electric savings than other commercial efficiency efforts.

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before existing equipment wears out." New Jersey Clean Energy Program Survey Report performed by Market Strategies November 2007.

Environmental justice will be improved because of the avoided need for future generation and T&D infrastructure investments, which often disproportionately effect disadvantaged sectors of the economy. Reductions in water pollution, CO_2 and other emissions are also expected.

8.7. TARGET END USES, RECOMMENDED TECHNOLOGIES, AND FINANCIAL INCENTIVES. The Program will target all cost-effective electric efficiency opportunities. Targeted end-uses include, but are not limited to:

- Interior and Exterior Lighting – higher efficiency technologies (e.g., CFLs, Super T8, T5; pulse-start metal halides) and fixtures; improved lighting design; controls (e.g., occupancy sensors, daylight dimming)
- HVAC – higher efficiency unitary AC, heat pump, and chillers; control systems; operational improvements (e.g., tune-ups, duct sealing); economizers; VFDs; premium efficiency motors
- Refrigeration – *(e.g.,* Vending Misers, high-efficiency packaged refrigeration equipment)
- Other – *(e.g.,* high efficiency kitchen equipment; water heating measures; retro-commissioning; high-efficiency customer-sited transformers)

The Program will offer both prescriptive incentives and custom incentives. Prescriptive incentives will be available for those technologies that are typically cost-effective in most applications, and have been shown to be effectively promoted through prescriptive approaches. They will include incentives for lighting, motors, and HVAC equipment at a minimum. Additional prescriptive measures such as compressed air, refrigeration, plug load equipment, VFDs and others will be considered over time. Prescriptive incentive levels will be based on lost opportunity markets, and will be set to defray, on average, 50% of the incremental cost from standard practice efficiency to high efficiency. Minimum efficiency criteria will be set to ensure maximum savings and minimization of free riders, while balancing the

need to ensure that numerous products are available and stocked to meet the criteria. Where appropriate, prescriptive minimum efficiency criteria will align with other standards or targets to leverage NY, regional or national efforts *(e.g.,* CEE Tier II levels, EPA ENERGY STAR, etc.)

Custom incentives will be available for all cost-effective measures not offered prescriptively, including all retrofit measures. Custom financial incentives will be a function of whether individual projects are retrofit or lost opportunity.

- For retrofit measures, the incentives will start at 25% percent of retrofit project cost, where the project cost includes the full labor and equipment installation costs for retrofit measures plus the incremental labor and equipment costs associated with replacement. Since the measure is still in relatively good working condition, the incentive to replace the measure is higher than that of a measure failure or replacement situation.
- For lost opportunity measures, the incentives will start at, on average, 50% of the full incremental cost of high-efficiency building and equipment choices.
- For large customers addressed through the custom approach, incentive offers will be presented in the form of a cash flow analysis that compares the project against financial criteria (*e.g.*, payback analysis, internal rate of return, return on investment); O&R's goal is to set the incentives at the minimum level that encourages customers to move forward with the project.

The above targets are estimated using average incentive levels. We expect to capture many opportunities at lower costs, while being prepared to cover up to the full measure cost if necessary to ensure adoption while remaining cost effective.

Non-financial services will include provision of technical assistance studies to customers. Initially, O&R will provide these services at no cost, but will investigate co-pay options if appropriate.

While customers eligible for the Small C&I Direct Install Program will also be eligible for this program, it will be primarily targeted to larger customers and to trade allies and other upstream market participants in efforts to transform various equipment replacement markets.

8.8. DEMAND REDUCTION AND SYSTEM BENEFITS. The Program spending of $11,148,706 will provide by 2011 estimated energy savings of 42,932 MWH and reduce peak demand by 10.2MW at a program TRC Benefit Cost Ratio, excluding utility incentives, of 2.5 and 2.6 including Carbon. These estimates will be informed by the results of the impact evaluations conducted in 2010 as described herein Section 3.7.2. The Peak Coincidence Factor of MWH saved in 2015 for the C&I Existing Building Program is 0.48.

C&I Existing Buildings Program Costs and Energy Summary

	4Q2008	2009	2010	2011	Total
Energy Savings (MWh)	-	7,299	14,319	21,314	42,932
Demand Reduction (MW)	-	2	3	5	10.2
Total Resource Costs ($)	-	4,620,142	8,374,801	12,479,451	25,474,394
Participant (Net of Incentives) ($)	-	2,243,390	4,780,483	7,301,815	14,325,688
Utility Costs ($)	-	2,376,752	3,594,318	5,177,636	11,148,706

C&I Existing Buildings Program Budget Detail (nominal $)

	2008	2009	2010	2011	Total
Customer Incentives	-	964,816	1,791,396	2,726,482	5,482,695
Prgrm Plan. & Admin	-	308,283	265,210	271,841	845,334.2
Prgrm Mrkting & Trade Ally	-	461,250	280,167	269,223	1,010,639
Program Implementation	-	523,565	1,077,829	1,651,209	3,252,603
Eval. & Mrkt Rsrch	-	118,838	179,716	258,882	557,435
Total Utility Costs	-	2,376,752	3,594,318	5,177,636	11,148,706
Non-Incentives Costs	-	1,411,936	1,802,922	2,451,154	5,666,012

C&I Existing Buildings Program Total Resource Cost Effectiveness

	Excluding utility incentive		Including utility incentive	
	Without CO2	With CO2	Without CO2	With CO2
NPV Benefits (million 2008$)	53.1	55.1	53.1	55.1
NPV Costs (million 2008$)	21.4	21.4	22.7	22.7
BCR	2.5	2.6	2.3	2.4

9. EVALUATION OF COMMERCIAL EXISTING BUILDINGS PROGRAMS

9.1. PROGRAM BACKGROUND. This Program will target all existing C&I customers with retrofit and lost opportunity services and particularly target large C&I customers, as these represent a small number of customers but a majority of the total C&I energy use. There are also significant differences between large customers and small/medium size customers in their management structures, building operation expertise, and the capacity to undertake capital projects. While retrofit opportunities among small and medium customers are expected to be primarily captured with the proposed Small C&I Direct Install Program, these customers may participate in this program as well, and will be specifically targeted for lost opportunities.

9.2. PROGRAM OBJECTIVES. The objective is to offer C&I customers a menu of flexible services that can be customized to meet individual customer requirements. O&R's large power engineers will build on existing relationships to assist in maximizing the capture of both retrofit and lost opportunities.

9.3. PROGRAM THEORY. The Program is designed to overcome several market barriers identified within this underserved market as described in Section 8.4. By offering C&I customers both prescriptive and custom incentives O&R will capture the market segment efficiency opportunities that would otherwise be lost. O&R will market the program upstream to all market participants including design professionals, equipment distributors, vendors and contractors in order to begin to transform the marketplace and create demand for energy efficient equipment and services. In addition, O&R will coordinate the delivery of this Program with planned and future programs, including the Small C&I Direct Install Program and any other programs offered by NYSERDA.

9.4. ANTICIPATED SAVINGS. The C&I Existing Building Program will have approximately 140 participants with annual savings of approximately 14,310 MWH and 3,400 KW per year through 2011.

9.5. PROGRAM SCHEDULE. O&R plans to begin offering this Program to customers as soon as possible following Commission approval.

9.6. EVALUATION APPROACH – GENERAL. Year One evaluation efforts will focus on evaluating how the program is operating during program start-up with an objective of identifying enhancements that can be made to implementation efforts that may contribute to improved results. In Year Two, the focus will be on quantifying achieved energy and demand savings based on pre- and post-installed measures, the operation of equipment installed, and the persistence of savings through the Existing Buildings Program. For larger customer projects will require a post-installation audit to verify that equipment or improvements for incentives were paid is as proposed. For smaller customer projects a sampling strategy will be developed to provide the appropriate level of confidence in estimates of project savings. Additional process evaluation efforts may be completed in program Year Three.

O&R anticipates that its evaluation efforts will be informed by the ongoing efforts of the Evaluation Advisory Group and by collaboration with the other utilities in the State that are planning to implement a similar program. If appropriate, O&R will participate in jointly sponsored evaluation studies with the other utilities.

9.7. DETAILED EVALUATION APPROACH.

9.7.1. YEAR ONE EVALUATION

As described in Section 3.7.1 above.

9.7.2. YEAR TWO EVALUATION

As described in Section 3.7.2 above, with the exception of:

IMPACT EVALUATION

The Impact Evaluation will quantify the energy and demand savings attributable to Program efforts based on pre- and post-installation measure data and how the equipment installed is actually operating. As this program contains both a prescriptive and custom component impact evaluation may utilize different techniques for each component. Since this

Program targets similar end-use to the Small C&I Direct Install Program, evaluation activities may be coordinated and evaluated by a single contractor. O&R anticipates completing an impact evaluation of the C&I Existing Building and Small C&I Direct Install Program in 2010 using industry-accepted methods of analysis.

BUDGET. Consistent with the Working Group III recommendation in the EEPS proceeding, O&R has budgeted approximately 5% of program implementation costs to fund evaluation efforts. O&R's annual budget for evaluation is approximately $185,812.

9.8. REPORTING.
As described in Section 3.8 above.

10. SMALL COMMERCIAL & INDUSTRIAL DIRECT INSTALL PROGRAM

10.1. PROGRAM DESCRIPTION. As described in O&R's August 21, 2008 Expedited Energy Efficiency filing 08-E-1003, the Small Commercial & Industrial Direct Install Program fell short of its MWh goal due to budget constraints of implementing a more expensive direct install program. O&R requested an increase in funding of $7.6 million above the $9.1 three year spending total. With this increase O&R could increase its energy savings goal from 20,920 MWh to 33,878 MWh and maximize customer participation, and achieve the 2011 goal for this Expedited Program. The program incorporated in this filing is the expanded version of the Small C&I Direct Install Program that was proposed in the Expedited Program Filing. The Program summary tables are shown below for the expanded program, the 60 Expedited Program, as filed, and the incremental funding difference requested in this 90 day filing.

The objective of this resource acquisition program is to rapidly acquire durable savings in energy and peak demand usage among small and medium Commercial & Industrial (C&I) customers with peak demands of 100 kW or less. These customers are traditionally hard to reach with traditional rebate and incentive programs. The program will focus on overcoming the numerous barriers existing among this customer group to target cost-effective retrofit (early retirement) efficiency opportunities.

10.2. PORTFOLIO BALANCE. Small Commercial and Industrial Direct Install Program efforts will be coordinated internally with O&R's proposed Existing Building Program and any applicable NYSERDA programs to ensure consistency across programs on product eligibility requirements and rebate amounts. The Programs will also coordinate outreach to trade allies such as electrical contractors and lighting supply houses.

In the event that the Commission approves a gas utility program, coordination and integration will be accomplished through the proposed program administration and

delivery mechanisms. In areas where O&R delivers electricity and NYSEG or Central Hudson delivers natural gas, O&R intends to work with the utilities to integrate all energy efficiency programs to offer customers the same features and benefits provided elsewhere. O&R will engage in discussions with the utilities regarding a similar integration strategy for a small portion of their service territories that overlap in Orange County.

10.3. PROGRAM ADMINISTRATION AND DELIVERY. The Program will be implemented by one or more contractors selected through a competitive bidding process. The O&R C&I Program Administrator will oversee the contractor's activities and will establish annual program goals and performance metrics for the contractor. The contractor(s) will provide O&R and its customers with "turn-key" services that will include:

- marketing and program enrollment;
- provision of on-site customer audits;
- identification and recommendations for efficiency improvements; and
- direct installation of all customer-accepted cost-effective recommended efficiency improvements in the customer's facility

10.4. MARKET BARRIERS. Numerous market barriers exist that inhibit the selection and purchase of energy efficiency technologies by small and medium C&I customers, and some are unique to this smaller class of customers. These barriers include:

- **HIGH INFORMATION OR SEARCH COSTS**: Small customers are especially prone to this barrier. They have little spare time to educate themselves about efficient equipment choices and often work with smaller contractors who themselves face this same barrier. Many customers do not hire someone to address energy issues for their facility. This poses significant challenges for distinguishing energy-efficient products or services from those that are not.
- **TRANSACTION TIME AND COSTS**[7]: Small businesses do not want to invest the time required to research and evaluate multiple options. Because their focus is on running their own business, many simply ignore efficiency opportunities

and only address electrical and mechanical systems when equipment failures occur. At that point, they generally simply rely on contractors to provide the most expedient and lowest cost solution to repair or replace equipment.

- **PERFORMANCE UNCERTAINTIES/PERCEIVED RISK/HIDDEN COSTS**: C&I customers have high implicit cost when introducing new technologies in production facilities, as "down time" has significant impacts on profitability and performance. Additionally, design professionals and contractors may be unwilling to change standard practice due to concerns about supporting new equipment after installation.
- **SPLIT INCENTIVES**: When landlords pay for energy-consuming equipment but tenants pay the energy bills, there is little incentive for either party to invest in improvements.
- **ACCESS TO CAPITAL**[8]: Concerns about debt burdens push businesses to focus on first costs, rather than life-cycle costs, as do the practices of lending institutions that fail to account for the unique features of energy-saving products. Smaller customers often have difficulty obtaining credit in general.
- **LACK OF AVAILABILITY**: Energy-efficient equipment may not be stocked by distributors or vendors, and longer lead times might prevent companies from selecting this equipment to minimize downtime. This barrier is particularly acute in this market segment, where most investments are made on an emergency basis or with little planning time.
- **ORGANIZATION PRACTICES OR CUSTOMS**: Businesses may establish procurement policies requiring purchase of least-first-cost equipment, rather than lowest life-cycle cost.
- **COMPETITION FOR RESOURCES**: Businesses are inundated with salespeople offering equipment and services. Energy efficiency must compete in this environment.

This Direct Install Program employs several key strategies to overcome these barriers:

- Turnkey service combines project analysis, financial incentives, and installation into a unified package to reduce the time and effort required on the part of the customer. This service is designed to make efficiency adoption as simple as signing a commitment letter, removing many of the transaction costs these customers face;
- Identification of opportunities and selection of efficiency measures accomplished by a trained, experienced contractor;
- Installed measures will be mature, well-tested technologies from reliable vendors;
- Participation should only require two site visits, one to identify opportunities and one to install selected measures;
- Incentive payments to reduce first cost barrier and financing arrangements to provide access to capital; and
- Information and education to inform businesses of the economic benefits of efficiency investments.

10.5. TARGET MARKET AND MARKETING APPROACH. The Direct Install Program will target C&I customers with annual peak demands of less than 100 kW. According to O&R's Market Potential Study, approximately 90% of the electric economic potential identified in the commercial market segment is attributable to lighting, cooling, ventilation, and refrigeration upgrades. This program will target each of these end uses and focus on the most cost effective measures.

The initiative will require marketing by both O&R and the Direct Install (DI) contractor. O&R's efforts will focus on making local small businesses aware of this Direct Install Program through consumer outreach efforts such as bill inserts and select mass media efforts and press releases. O&R may also consider direct telemarketing for the initial facility audit. All inquiries received by O&R will be

referred to the DI contractor. Once the initial audit occurs, the DI contractor will be responsible for marketing its products and services directly to customers. The DI contractor will have contractual goals for number of leads generated or projects initiated.

The DI contractor should use a combination of telemarketing, direct mail, and neighborhood outreach to market the Direct Install Program. Neighborhood outreach may include "blitzing" specific commercial districts or areas of the service territory. This can generate substantial press coverage and result in higher acceptance rates when customers see that their neighboring businesses are participating. The DI contractor will market by geographic area and do ad hoc personal contact marketing to other customers in the neighborhood while on-site for an installation. This strategy works well to increase interest and minimize contractor travel costs.

The DI contractor will also inform customers of the incentives and assistance available from other current and future C&I energy efficiency programs. For example, an audit might identify a piece of equipment that, while not cost-effective to replace immediately, is nearing the end of its useful life. In such a case, the DI contractor will notify the customer of any incentives available when new equipment is purchased.

The DI contractor compensation will be based on fixed costs for installation of standard measures, as well as agreed upon pricing mechanisms for "custom" measures. These costs will cover all Contractor overhead, including administration, marketing, auditing, installation, and equipment disposal. As a result, the contractor will be motivated to efficiently market its services and obtain projects. Also, the contractor will be highly motivated to capture all comprehensive savings opportunities within each facility and obtain customer acceptance for recommended measures, as any audits that do not translate into installations would represent wasted contractor investment.

10.6. COORDINATION AND CO-BENEFITS. O&R is working to ensure there is no customer or contractor confusion surrounding the eligibility and standards of this program.

There are currently no other entities offering a similar energy efficiency program in the O&R service territory at this time. Energy efficiency programs generally provide positive impacts for the economy, low-income customers, housing stock, environmental justice, and reductions in air and water pollution. This will be true of O&R's proposed Small C&I Direct Install Program. ACEEE estimates that investments in energy efficiency programs result in a job multiplier of 13.5 jobs per million dollars of investment as compared to only 2.4 for utility supply-side investments.[3] The proposed budget for the Small C&I Direct Install Program of $16,800,667 over the three year period would generate approximately 227 jobs through stimulated demand for trained and certified contractors in the service territory. While substantial savings will accrue to small business owners as a result of O&R proposed Small C&I Direct Install Program, dramatic improvements to the building stock are not expected. This is a result of PSC budget constraints that limit the ability of O&R to aggressively pursue tangible improvements in existing building stock, which tend to be more costly per unit of savings than other commercial efficiency efforts. Environmental justice will be improved because of the avoided need for future generation and T&D infrastructure investments, which often disproportionately effect disadvantaged sectors of the economy. Reductions in water pollution, CO_2 and other emissions are also expected.

10.7. TARGET END USES, RECOMMENDED TECHNOLOGIES, AND FINANCIAL INCENTIVES. As with virtually all existing small C&I direct install programs, the majority of program savings are expected to come from interior lighting improvements. However, O&R intends to address all cost-effective efficiency opportunities in a comprehensive manner. In addition to an array of lighting measures, other "standardized" measures will include a package of refrigeration system improvements for convenience stores, restaurants and other customers with small to medium-sized refrigeration systems. The program will also include a standard HVAC tune-up service. This will focus on diagnostics and improvements to existing air conditioning systems to optimize efficiency, including correcting

refrigerant charge, air flow across coils, economizer repair and adjustment, and duct sealing. Through the diagnostic procedures, O&R's DI contractor will also be able to flag those AC units that are so inefficient that it is cost-effective to replace the whole unit with a high efficiency one. Some additional standard measures will be offered, where applicable, such as water heater tank wraps and pipe insulation.

DIRECT INSTALL PROGRAM MEASURE LISTING:

Measure
Super T8 lamp/ballast
Fluor high-low bay fixture - interior
Super T8 fixture
CFL fixture - interior
Occupancy on/off
Duct sealing -Cool
Dual enthalpy control
Occupancy hi/low
HVAC tune-up -Cool
Duct sealing -Vent
CFL screw-in
Vending miser
LED exit sign
MH 25W int ballast Par38
CFL - exterior
Ventilation VFD
Walk-in refrig retrofit package
HVAC tune-up -Heat
Vent premium efficiency motors
Water heater tank insulation
DHW pipe insulation

Expansion Measures
HE Heat Pump Tier III
HE Heat Pump Tier II
HE Heat Pump Tier II
HE Window AC
HE AC Tier II
Demand Controlled Ventilation

The initial customer incentive will be set at 70% of the total installed cost. In practice, customers will only need to come up with the 30% payment, as O&R will compensate the DI contractor directly for 70% of the costs.

O&R is investigating the possibility of providing on-bill financing for the balance of the customer contribution. In the event an on-bill financing plan is developed, it will be submitted to the Commission for approval as an amendment to the Direct Install Program. O&R will continue to pursue these strategies and may adjust the financial incentives over time so as to generate maximum comprehensive savings at lowest customer cost.

10.8. DEMAND REDUCTION AND SYSTEM BENEFITS. The Program spending of $16,800,667 will provide by 2011 estimated energy savings of 35,912 MWH and reduce peak demand by 9.6 MW at a program TRC Benefit Cost Ratio, excluding utility incentives of 2.5 and 2.5 including Carbon. The previously filed Expedited Small C&I Direct Install Program on August 21, 2008 was budgeted $9,086,742 delivering 20,920 MWH of savings with a TRC BC ratio excluding utility incentives of 2.5 and 2.6 with Carbon. These estimates will be informed by the results of the impact evaluations conducted in 2010 as described herein section 3.7.2. The Peak Coincidence Factor of MWH saved in 2015 for the Small C&I Direct Install Program is 0.43.

Below are the total program cost and energy summary results, including the 60 day Expedited Filing 08-E-1008 and the requested increased funding level:

Small C&I Direct Install Program Costs and Energy Summary

	4Q2008	2009	2010	2011	Total
Energy Savings (MWh)	-	7,206	12,308	16,398	35,912
Demand Reduction (MW)	-	2	3	4	9.6
Total Resource Costs ($)	-	4,142,266	8,022,878	10,823,466	22,988,610
Participant (Net of Incentives) ($)	-	1,085,904	2,164,327	2,937,712	6,187,944
Utility Costs ($)	-	3,056,362	5,858,551	7,885,754	16,800,667

Small C&I Direct Install Program Budget Detail (nominal $)

	2008	2009	2010	2011	Total
Customer Incentives	-	2,710,964	5,403,251	7,334,008	15,448,223
Prgrm Plan. & Admin	-	141,329	127,352	130,536	399,217.0
Prgrm Mrkting & Trade Ally	-	51,250	35,021	26,922	113,193
Program Implementation	-	-	-	-	-
Eval. & Mrkt Rsrch	-	152,818	292,928	394,288	840,033
Total Utility Costs	-	3,056,362	5,858,551	7,885,754	16,800,667
Non-Incentives Costs	-	345,397	455,300	551,746	1,352,443

Small C&I Direct Install Program Total Resource Cost Effectiveness

	Excluding utility incentive		Including utility incentive	
	Without CO2	With CO2	Without CO2	With CO2
NPV Benefits (million 2008$)	47.3	48.8	47.3	48.8
NPV Costs (million 2008$)	19.3	19.3	20.4	20.4
BCR	2.5	2.5	2.3	2.4

Below is the incremental portion to 60 day Expedited Filing 08-E-1003 on August 21, 2008:

Small C&I Direct Install Program Costs and Energy Summary

	4Q2008	2009	2010	2011	Total
Energy Savings (MWh)	-	2,948	5,164	6,879	14,991
Demand Reduction (MW)	-	0.9	1.5	2.0	4.4
Total Resource Costs ($)	-	1,856,351	3,756,573	5,036,396	10,649,321
Participant (Net of Incentives) ($)	-	511,688	1,035,468	1,388,241	2,935,397
Utility Costs ($)	-	1,344,663	2,721,105	3,648,156	7,713,924

Small C&I Direct Install Program Budget Detail (nominal $)

	2008	2009	2010	2011	Total
Customer Incentives	-	1,277,430	2,585,050	3,465,748	7,328,228
Program Planning & Admin	-	-	-	-	-
Program Marketing & Trade Ally	-	-	-	-	-
Program Implementation	-	-	-	-	-
Evaluation & Market Research	-	67,233	136,055	182,408	385,696
Total Utility Costs	-	1,344,663	2,721,105	3,648,156	7,713,924
Non-Incentives Costs	-	67,233	136,055	182,408	385,696

11. EVALUATION OF SMALL C&I DIRECT INSTALL PROGRAM

11.1. PROGRAM BACKGROUND. The Direct Install Program is an expansion of the Small C&I Direct Install Program originally filed in the Company's 60 day filing pursuant to the Commission's June 23 Order in Case 08-E-1003. The Program will promote the installation of cost-effective lighting, cooling, ventilation and refrigeration equipment. The initial customer incentive will be set at 70% of the installed measure cost with customers responsible for the remaining 30%. Small to medium C&I customers with peak demands of 100kW or less will be eligible for the Direct Install Program. O&R is investigating the possibility of providing on-bill financing for the remaining customer contribution. In the event an on-bill financing plan is developed, it will be submitted to the Commission as an amendment to this Program.

11.2. PROGRAM OBJECTIVES. The objective of this resource acquisition program is to acquire durable savings in energy and peak demand usage among small to medium C&I Customers with peak demands of 100 kW or less. The program will focus on overcoming the numerous barriers existing among this group to target cost-effective retrofit efficiency opportunities. The program will be implemented by an outside contractor who will provide "turn-key" services to O&R and its customers.

11.3. PROGRAM THEORY. The Program is designed to overcome several market barriers identified within this underserved market as described in Section 10.4. As with many of the programs filed in this plan, the Program is designed to overcome the market barrier of lack of energy efficiency awareness and the upfront cost of capital. This customer segment has been particularly hard to reach and most do not have the time and resources to make energy efficient choices. By providing an audit and funding 70% of the installation costs, the Program will overcome these two primary market barriers. In addition, O&R will coordinate the delivery of this Program with planned and future programs, including the Existing Building Program and any other C&I programs offered by NYSERDA.

11.4. ANTICIPATED SAVINGS. The Direct Install Program will have approximately 3,591 participants with annual savings of approximately 11,970 MWH and 3,200 KW through 2011.

11.5. PROGRAM SCHEDULE. O&R plans to begin offering this Program to customers as soon as possible following Commission approval.

11.6. EVALUATION APPROACH – GENERAL. Year One evaluation efforts will focus on evaluating how the program is operating during program start-up with an objective of identifying enhancements that can be made to implementation efforts that may contribute to improved results. In Year Two, the focus will be on quantifying achieved energy and demand savings based on pre- and post-installed measures, the operation of equipment installed, and the persistence of savings through the Direct Install Program. Since this program is a direct install program, data from pre- and post-measure installation will be collected by the contractor upon site visits. Additional process evaluation efforts may be completed in program Year Three.

O&R anticipates that its evaluation efforts will be informed by the ongoing efforts of the Evaluation Advisory Group and by collaboration with the other utilities in the State that are planning to implement a similar program. If appropriate, O&R will participate in jointly sponsored evaluation studies with the other utilities.

11.7. DETAILED EVALUATION APPROACH

11.7.1. Year One Evaluation

As described in Section 3.7.1 above.

11.7.2. Year Two Evaluation

As described in Section 3.7.2 above, with the exception of;

Impact Evaluation

The Impact Evaluation will quantify the energy and demand savings attributable to Program efforts based on pre- and post-installation measure data and how the equipment installed through the Direct Install Program is actually operating. The Company may also consider short-term metering of lighting measures to determine demand savings and hours use operation. As a direct installation program, contractors will obtain actual pre- and post-installation data and the impact evaluation contractor will be retained as soon as possible in order to be sure that all relevant data is collected. O&R anticipates completing an impact evaluation of the Direct Install Program in 2010 using industry-accepted methods of analysis.

BUDGET. Consistent with the Working Group III recommendation in the EEPS proceeding, O&R has budgeted approximately 5% of program implementation costs to fund evaluation efforts. O&R's annual budget for evaluation is approximately $280,011.

1.1. REPORTING.
As described in Section 3.8 above.

2. PROGRAM DATA AS DEFINED IN APPENDIX 3

2.1. TOTAL RESOURCE COST TEST BENEFIT-COST RATIO:

Orange and Rockland Utilities, Inc. Total Program Portfolio				
Program Benefit Cost Ratio Summary -TRC Ratio				
	2008 - 2011 Calculation			
	Without Utility Incentive		With Utility Incentive	
Program	BC Ratio	w / Carbon BC Ratio	BC Ratio	w / Carbon BC Ratio
Residential ENERGY STAR HVAC	2.3	2.3	2.2	2.3
Residential Efficient Products	5.0	5.2	4.1	4.2
Residential Existing Homes	1.1	1.2	1.1	1.1
Small C&I Direct Install	2.5	2.5	2.3	2.4
C&I Existing Buildings	2.5	2.6	2.3	2.4
Total Portfolio	2.6	2.7	2.4	2.5

2.2. RATE IMPACTS

Orange and Rockland Utilities, Inc. Total Program Portfolio						
2015 Electric Rate Impacts						
			Levelized			
	Levelized		Total		Delivery	
Program	Total Bill	Delivery Bill	per MWh	per MW	per MWh	per MW
Residential ENERGY STAR HVAC	0.09%	0.31%	1,178	693,788	1,178	693,788
Residential Efficient Products	0.35%	1.20%	142	981,108	142	981,108
Residential Existing Homes	0.08%	0.26%	1,521	4,025,081	1,521	4,025,081
Small C&I Direct Install	0.98%	3.32%	230	850,063	230	850,063
C&I Existing Buildings	0.79%	2.69%	161	681,015	161	681,015
Total Portfolio	2.34%	7.97%	198	800,506	198	800,506

2.3. 2015 MWH & MW Savings and Peak Coincidence Factor:

Orange and Rockland Utilities, Inc. Total Program Portfolio			
2015 Program Savings and Peak Coincidence Factor			
	MWh Saved	MW Saved	Peak Coincidence Factor
Program	**2015**	**2015**	**2015 (1)**
Residential ENERGY STAR HVAC	2,214	4.2	0.06
Residential Efficient Products	45,775	6.2	0.85
Residential Existing Homes	2,333	0.9	0.30
Small C&I Direct Install	83,795	22.4	0.43
C&I Existing Buildings	100,175	24.0	0.48
Total Portfolio	**234,292**	**57.6**	**0.46**

(1) Peak Coincidence Factor calculated as defined in the June 23rd Order in Appendix 3.

2.4. 2015 Participation Rates:

Orange and Rockland Utilities, Inc. Total Program Portfolio				
2015 Program Participation				
Program	**2015 Participants**		**2015 Participation Rate**	
	Residential	**C&I**	**Residential**	**C&I**
Residential ENERGY STAR HVAC	5,633	0	2.8%	na
Residential Efficient Products	39,541	0	19.7%	na
Residential Existing Homes	1,664	0	0.8%	na
Small C&I Direct Install	0	8,379	na	24.9%
C&I Existing Buildings	0	326	na	1.0%
Total Portfolio	**46,838**	**8,705**	**23.3%**	**25.9%**