CPower, Inc.
17 State Street, 19th Floor
New York, NY 10004
T. (212) 796-7100
F. (212) 361-6385
info@cpowered.com
www.cpowered.com

VIA FEDEX

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

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

Dear Secretary Brilling:

On June 23, 2008 the Commission issued an order seeking independent program administrators looking to further expand the range of programs, and seeking to encourage innovation, to submit proposals to the Commission no later than 90 days from the issuance of the Order.

CPower hereby submits the attached independent program proposal and seeks to become an independent program administrator based upon the proposal. CPower would like to thank the Commission in advance for the opportunity to submit our independent program.

Sincerely,

*/s/ B. Marie Pieniazek*

Senior Director
Market & Program Development, Northeast
CPower

**STATE OF NEW YORK**
**PUBLIC SERVICE COMMISSION**

# Case No. 07-M-0548-Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard

**Program Submission Concept**
**CPower, Inc. (formerly ConsumerPowerline)**

**September 22, 2008**

## I. INTRODUCTION

CPower, Inc., formerly ConsumerPowerline, is a full service strategic energy asset management firm and a leading provider of demand response solutions in the United States, with more than 2,000 MWs under management. We currently operate in North America's largest energy markets including New York, California, New England, Mid-Atlantic, Texas and Ontario.

CPower is a recognized leader in structured free wholesale markets, providing both economic and reliability resources to wholesale markets. CPower's current portfolio of customers includes a wide range of resources, including large industrial loads, institutional customers, and commercial and residential consumers.

## II. PROGRAM OVERVIEW

CPower submitted a methodology for developing and operating its program on August 7th, 2008, to all active parties, and invited comment (Appendix A). The feedback CPower received underscored the importance of such a market approach, but criticized CPower's proposal in that it did not provide a clear pilot program, with a specific budget, that would offer the Commission a tangible parallel market with a program administrator.

CPower believes that the current state of affairs (with utilities and the New York State Energy Research and Development Agency issuing sole- and limited-source contracts that are not transparent with respect to terms and price) creates an unlevel playing field that will seriously harm the market and hamper success by stifling competition. In addition, CPower believes that the current system could result in an erosion of jobs in the industry due to multiple business failures, and reduced payments to end-users, as a result of monopoly power. CPower believes that this system should be replaced by an open, objective, transparent opportunity for all end-users and for all qualified private-industry participants to pay their clientele the same amount for energy efficiencies.

Therefore, CPower is offering a pilot program to help fill the gap between the megawatt hour reductions that could be expected with "business as usual" approaches and the state goal of 15% reductions by 2015. We expect to achieve annual reductions of MWh's annually, by 2011 at a benefit to Total Resource Cost of 3.0[1] or greater. All reductions will be measured and funded:

1. ***Objectively, with clear metrics***
2. ***Transparently, with clear and simple definitions of what measures qualify and how***
3. ***Equal pay for equal reductions, and***
4. ***Open access to all businesses and residents***

The proposed pilot is designed to mitigate the market harm that comes when several providers compete to get more money from the rate base by seeking approval from the Commission for more and more expensive energy-efficiency programs. Such a market creates a race in which ratepayers are confused, early entrants who contract at reduced rates fail to achieve their targets, as does the market as a whole.

Therefore, this proposal outlines processes and measurement and verification standards that CPower will implement. These processes are intended as well to be transparent and objective, such that, in theory, alternative providers could, themselves, use them, as guides to themselves propose to the Commission for approval to act as administrators. This objectivity and transparency makes certain that no unfair market practices will ensue, that threaten the viability of competitive energy markets. In order to ensure end-users who install energy efficiency measures that they are getting paid fairly, and to simulate the dutch auction structure that economists recognize as essential for building a market, this proposal outlines a fair and open price for energy efficiency that will be adjusted upward, in the event that a state agency or a rate-base funded rebate is established that pays more for essentially the same efficiency measure.

CPower has outlined measurement and verification standards that are representative of what the industry has delineated as fair assessments of energy-efficiency achieved through a particular measure. We recognize that there is a stakeholder process to better hone these metrics and to

[1] TRC for each measure is outline in Appendix B attached; methodology for calculating TRC is outlined in August 7, 2008 paper (Appendix A)

clarify net- to gross issues by measure, and/or by rate class. In the coming months, we will submit modifications to incorporate agreed-upon standards to ensure that spillover and surplus are quantified, and accounted for, in a manner that this pilot maintains a 3.0 benefit to total cost ratio.

## III. PILOT PROGRAMS

### A. LIGHTING

**Budget, Target MW's, Timetable & Contribution to address the gap:**

| Lighting | MWh achieved | % of MWh goal | $/MWh | total value | ratio | price cap | budget |
|---|---|---|---|---|---|---|---|
| 2009 | 75,000 | 15% | $147.19 | $11,038,917.21 | 3.0 | $ 49.06 | $ 3,679,639.07 |
| 2010 | 200,000 | 20% | $145.93 | $29,185,424.27 | 3.0 | $ 48.64 | $ 9,728,474.76 |

CPower seeks to establish a goal of 200,000 MWh's in annual energy efficiency through Commercial, Industrial and Institutional lighting retro fits, by 2011. A comprehensive lighting improvement shall include replacing lamps/ballasts, replacing existing fixtures with new fixtures, retrofitting fixtures and system redesign to lower wattage use. Retrofitting fixtures may include remounting lamps to improve fixture efficacy and system redesign may include new fixture types and improved grid layout.

A "line by line" energy audit will identify the number of existing fixtures, the location of the fixtures, lamp ballast configuration and wattage by fixture type. An existing wattage table acceptable to Commission will be utilized (NYSERDA Wattage table is an acceptable standard) to derive the existing kW of the system. The equipment and line by line audit are subject to inspection and certification by the customer, by CPower, and by the Commission. CPower intends to employ neutral third-party inspection and certification contractors. It is likely that the firm will seek to harmonize standards with other program administrators, such as NYSERDA, or to work with these other entities' contractors to unify the process.

The wattage after the lighting improvements are installed is based on the "as built line by line" and compares the existing fixture wattage to the installed fixture wattage in each location, by line item. The wattage is also based on an acceptable wattage table. The installed equipment

is again subject to inspection and certification by the customer, by CPower, and by the Commission.

The life of lighting improvements can be assumed to be the life of new lighting fixtures, whether new or retrofitted. This anticipates that replacement by new technology does not become economically advantageous and that lamps and ballasts are replaced with appropriate and equally efficient models. For the purpose of this proposed program, we estimate the useful life of Lighting Improvements to be 10 years, although the actual useful life will be longer.

Methodology for Capturing Savings: The program was developed in accordance with the above general approach. An on-site fixture and space audit performed in coordination with the facility user quantified the project. That effort also optimized lighting quality for the applied application.

CPower will utilize a standard approved wattage table for retrofit applications and the installed equipment will be subject to pre-approval, inspection and certification by the customer, by CPower, and by the Commission.

The following describes our approach and methodology with specific examples for capturing and delivering energy reduction savings that will seeks to assist the Commission in meeting their 15 x 15 energy savings goal. This approach will also assist in deferring capital investment of transmission and distribution, create related energy, and will provide cost savings for customers. The procedures described below will satisfy the combined goal to deliver energy efficiency savings, provide owners with desired facility upgrades and create the best overall value.

The following general procedure will be aligned with the individual account needs and formally executed in accordance with proposed program:

1. Data Collection – Assemble facility specific information, such as:
    a. Contact information for ownership and operations staff
    b. Building(s) size and configuration(s)
    c. Use and operating hours
    d. Utilities consumed with providers and account numbers

e. General building systems and infrastructure

2. Facility Visit – Perform initial site visit, interview operations staff and ascertain the following information:
    a. Document method of building operation and hours of operation
    b. Obtain historic utility consumption through utility bills or utility-provided electronic data
    c. Identify critical service requirements and integrity needs
    d. Identify building systems and processes responsible for daily consumption of utilities along with operating parameters (i.e. set points, loading, schedules, etc.)
    e. Catalog operating equipment serving these systems, including manufacturer, model, age, fuel source (electric, gas, oil, steam, etc.), capacity, operating parameters (temperatures, flows, method of modulation, minimum and maximum loading, etc.), age and suitability for continued service
    f. Assess existing emergency life safety and supplemental onsite generation for total capacity and operational constraints
    g. Specifically ascertain from facility staff pending, planned or desired efficiency measures and system upgrades

3. Qualification – Assemble a pre-schematic design in diagrammatic and descriptive form for potential lighting measures that will identify installation constraints, determine operational requirements and illustrate implementation scope. Discuss viability with facility staff. (Detailed audits for lighting and controls and similar opportunities may be applicable at this stage.)

4. Project Quantification – Assemble spreadsheet-based energy calculations for viable measures using facility operating hours, systems parameters and loading, published local annual weather date, utility tariffs to determine demand reduction

and energy savings. Create conceptual scope of work and preliminary costs required for implementation of each measure. Generate pro forma that illustrates return on investment.

5. Due Diligence – Meet with facility staff to confirm potential measures for viability. The review shall refine parameters, identify constraints and determine applicability. Viable measures will be combined into an overall program that will reflect specific revisions per the review process.

6. Program Optimization and Approval – Refine and revise program through field measurements, engineering and incorporate committed costs and incentives. Determine and gain acceptance of savings verification method in accordance with accepted protocol. Obtain approval to proceed from governing authorities.

7. Implement Measures – Execute measures in accordance with customer constraints and coordinate with the outlined requirements, as well as any additional requirements the Commission implements.

8. Monitoring and Reporting – Verify savings in accordance with accepted methods and coordinate fulfillment of contract and incentive commitments. Provide follow up reporting per Commission on a monthly schedule, to be delivered on the first of each month.

9. Certifying Contractor Practices – CPower will either perform the work directly or it will certify independent parties to do so. Certified independent parties will, themselves, need to present an affidavit that all work was completed according to the highest professional standards and that all statements related to estimation and installation are correct, to the best of their knowledge. Certification will include training for the independent parties conducting the work and random sampling of

the work that contractors certify. Any contractor who has submitted an inaccurate certification is to be subject to suspension or revision of the certification license.

**B. RETRO and CONTINUOUS COMMISSIONING**

**Budget, Target MW's, Timetable & Contribution to address the gap:**

| CCX | MWh achieved | % of MWh goal | $/MWh | total value | ratio | price cap | budget |
|---|---|---|---|---|---|---|---|
| 2009 | 30,000 | 6% | $321.02 | $ 9,630,678.68 | 4.0 | $ 80.26 | $ 2,407,669.67 |
| 2010 | 40,000 | 4% | $331.75 | $13,269,924.88 | 4.0 | $ 82.94 | $ 3,317,481.22 |

The Objective of Retro-commissioning RCx is to "produce a permanent improvement in the on-going operation and management of buildings." This is an ongoing process of making sure at a later date that buildings operate with a level off efficiency and comfort to ensure optimal productivity at minimal impact. The commissioning process can be applied to existing buildings that have never been commissioned to restore them to optimal performance. Retro-commissioning (RCx) is a systematic, documented process that identifies low-cost operational and maintenance improvements in existing buildings and brings the buildings up to the design intentions of its current usage

RCx typically focuses on energy-using equipment such as mechanical equipment, lighting and related controls and usually optimizes existing system performance, rather than relying on major equipment replacement, typically resulting in improved indoor air quality, comfort, controls, energy and resource efficiency.

RCx typically includes an audit of the entire building including a study of past utility bills, interviews with facility personnel. Then diagnostic monitoring and functional tests of building systems are executed and analyzed. Building systems are retested and re monitored to fine-tune improvements. This process helps find and repair operational problems. The identification of more complex problems is presented to the owner as well. A final report, recommissioning plan and schedule are then given to the owner.

Retro-commissioning is the application of the commissioning process to existing buildings. Retro-commissioning is a process that seeks to improve how building equipment and

systems function together. Depending on the age of the building, retro-commissioning can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building's life. In all, retro-commissioning improves a building's operations and maintenance (O&M) procedures to enhance overall building performance.

All forms of building commissioning share the same goals: to produce a building that meets the unique needs of its owner and occupants, operates as efficiently as possible, provides a safe, comfortable work environment, and is operated and maintained by a well-trained staff or service contractor.

**Why is retro-commissioning important?**

Commercial buildings frequently undergo operational and occupancy changes that challenge the mechanical, electrical and controls systems, hindering optimal performance. Additionally, in today's complex buildings, systems are highly interactive with sophisticated control systems that can create a trickle-down effect on building operations – small problems have big effects on performance.

Unfortunately, most buildings have never gone through any type of commissioning process, and even well-constructed buildings experience performance degradation over time. No matter how well building operators and service contractors maintain equipment, if it operates inefficiently or more often than needed, energy waste and reliability problems can occur.

**What are the benefits of retro-commissioning?**

Everyone benefits from retro-commissioning. For owners, retro-commissioning reduces building operating costs that can lead to an increase in net operating income. Building managers notice fewer occupant complaints and increased ability to manage systems. Building staff receive training and improved documentation, and building occupants are more comfortable.

*Cost Saving*

Retro-commissioning can produce significant cost savings in existing buildings. Savings vary depending on the building type, its location, and the scope of the retro-commissioning process. A

comprehensive study[2] found average cost savings in the following ranges:

| Description | Range of Values |
|---|---|
| Value of Energy Savings | $0.11 - $0.72/sq ft |
| Value of Non-Energy Savings | $0.10 - $0.45/sq ft |

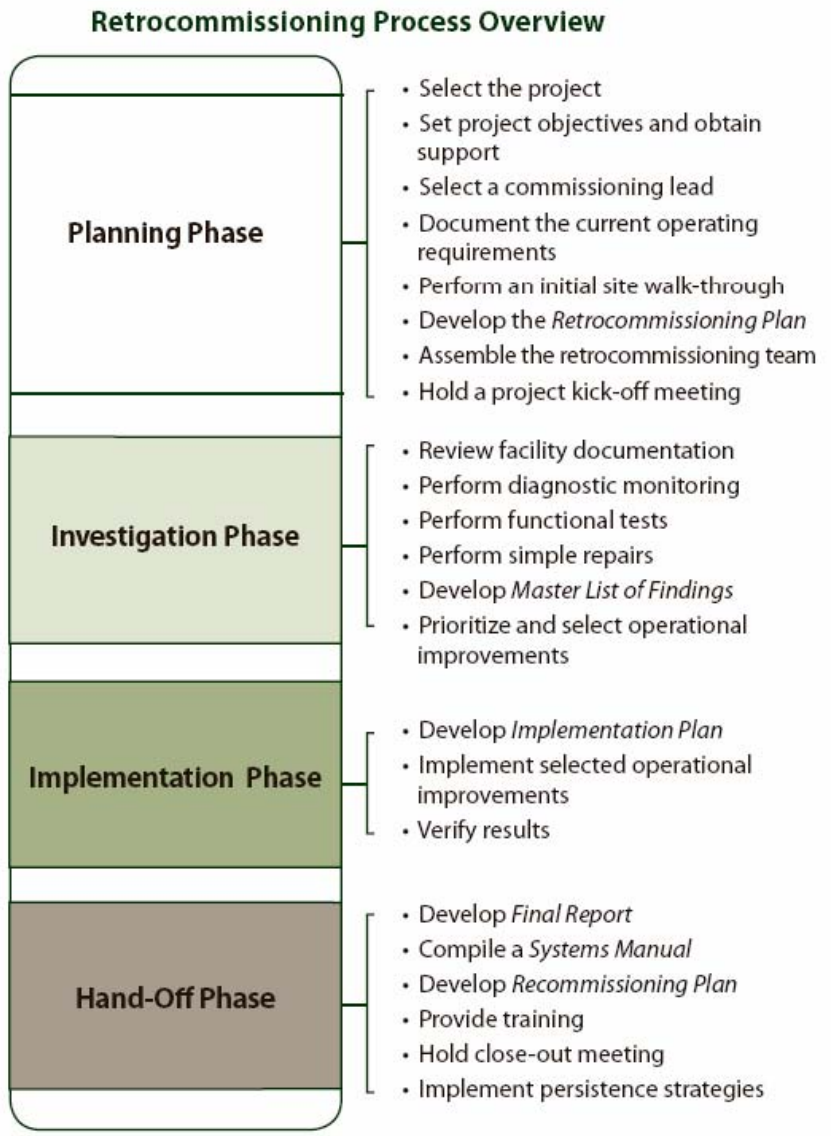
The many documented benefits resulting from retro-commissioning include:

- Improved system operation: beyond preventive maintenance
- Improved equipment performance
- Increased O&M Staff Capabilities and Expertise
- Increased asset value
- Energy savings
- Improved Occupant Comfort
- Improved indoor environmental quality (IEQ)
- Improved building documentation

**The Retro-commissioning Process**

A well-planned and executed retro-commissioning project typically occurs in four distinct phases: *Planning, Investigation, Implementation, and Hand-Off*.

[2] Mills, E., H. Friedman, T. Powell, N. Bourassa, D. Claridge, T. Haasl, and M.A. Piette. 2004. "The Cost-Effectiveness of Commercial-Buildings Commissioning," Lawrence Berkeley National Laboratory. http://eetd.lbl.gov/EMills/PUBS/Cx-Costs-Benefits.html




**Continuous Commissioning**

Continuous Commissioning is simply retro-commissioning, maintained over time. There is a great need to leverage the increased utilization of real-time metering and the increased penetration of demand response resources to produce incremental and permanent energy efficiency. There is a relationship between demand response (DR) and energy efficiency derived from Continuous Commissioning because ISO demand response programs require the installation of the interval metering that is required to implement Continuous Commissioning.

The advanced meters required by DR program rules allow for a continuous record of load and energy consumption on a near-real-time basis. This data is analyzed electronically or manually, using software that identifies usage trends. ESCOs can then identify opportunities for ongoing energy efficiency savings that might otherwise go unnoticed. Further, these efficiencies are often very low cost opportunities, as they can be effectuated with simple operational shifts or minor changes in settings in building management systems.

Continuous Commissioning uses remote energy consumption metering with trend log ability to identify previously unrecognized inefficiencies in operating systems, document energy savings due to operational improvements, enable diagnostic procedures, and ensure persistence of reductions through ongoing re-commissioning. Continuous Commissioning differs from commissioning a system when it is first installed and from re-commissioning later, in that it requires continuous monitoring, assessment and adjustment in maintain persistence. Yet, due to this continuous attention and improvement, these measures are likely as permanent as alternative energy efficiency measures, and sometimes increase over time as end-users see what can be done with comfort.

**Target**

CPower seeks to establish a goal of 40,000 MWh's in annual energy efficiency through Continuous Commissioning as a permanent energy measure under our proposal, by mid-2010. Through leveraging existing and incremental demand response customers CPOWER will achieve significant and permanent low cost energy savings in the projected amount of $5 million, annually. Adopting Continuous Commissioning into the 15 x 15 goals will not only provide energy efficiency savings but will seek to enhance demand response participation, and supports advance metering in New York. Expected benefits from Retro- and Continuous Commissioning are projected to range from 5% to 10% in energy savings, on a sustainable basis, in client sites.

The Continuous Commissioning ® **Process**

It's an ongoing process (*not* an annual checkup) for monitoring systems, diagnosing and resolving issues, and making energy consumption as efficient as possible while maintaining or improving building comfort. It includes anything from physical maintenance, to control strategies, to prioritizing and implementing retrofits.

While other forms of commissioning on existing buildings have initial design specifications as their goal, continuous commissioning seeks to optimize the current operations—how the building is occupied and used today accounting for changes since the original design.

Engineers find opportunities to make the building work better using minor system hardware changes, and by enhancing the building design and operation. For instance, designers typically put in "safety factors" that result in higher energy usage because oversized systems run at reduced part load. It is not uncommon to find systems operating at 30 to 50% oversized. Hence continuous commissioning helps in right sizing the systems where applicable.
Figure below shows the key steps in the Continuous Commissioning® process.

The CC® Assessment of Step 1 uses a visit that involves site staff and site measured data to develop a price proposal that identifies and quantifies potential measures and savings. It also identifies any additional energy monitoring that may be needed. Step 2 consists of developing and approval of a continuous commissioning plan. Upon approval to precede Step 3 of CC the provider develops performance baselines for energy and comfort. Step 4 includes examining the building in detail to diagnose operating and comfort problems in the building, identifying specific component failures or degradation, and diagnosing specific causes of system inefficiency down to the AHU and/or terminal box level. The maintenance measures, control changes, balancing changes, or minor equipment improvements needed to improve efficiency are efficiently identified and prioritized. This step involves identification of changes needed to operate the mechanical equipment for optimum efficiency for the actual building use. This fundamentally differs from the traditional commissioning approach that focuses on bringing the building to design conditions that are usually over-designed and often rather different from actual use, resulting in built-in inefficiencies.

Step 5 involves implementing CC® measures, after discussing them with the building staff, and changing the measures as needed to fit the measures to staff expectations. The CC® engineers then work closely with the staff to implement the approved changes, and further fine tune the changes during implementation. Again, this fundamentally differs from retro-

commissioning projects that deliver a report to the owner who has staff or a contractor implement the measures. The CC® engineers have the knowledge required to fine tune the measures and often double the savings obtained when others implement the changes. This tunes the equipment to deliver comfort with much improved savings. An important feature of Step 5 is that the building staff is deeply involved in the CC® process.

Finally, Steps 6 and 7 include documenting the changes in operating procedures for the staff as well as the energy savings and comfort improvements. Ongoing tracking of energy and comfort performance is essential to maintain the integrity of the energy savings. Experience has shown system components often fail or degrade in ways that increase operating cost by $0.50/sq.ft.-year. These losses usually go unnoticed since the controls compensate by using substantially more energy to sustain comfort set points. A dedicated CC® monitoring and analysis staff with software tools will identify degradation in savings more efficiently than a group for whom this is just one of their many responsibilities. This investment assures the long term survivability of the savings.

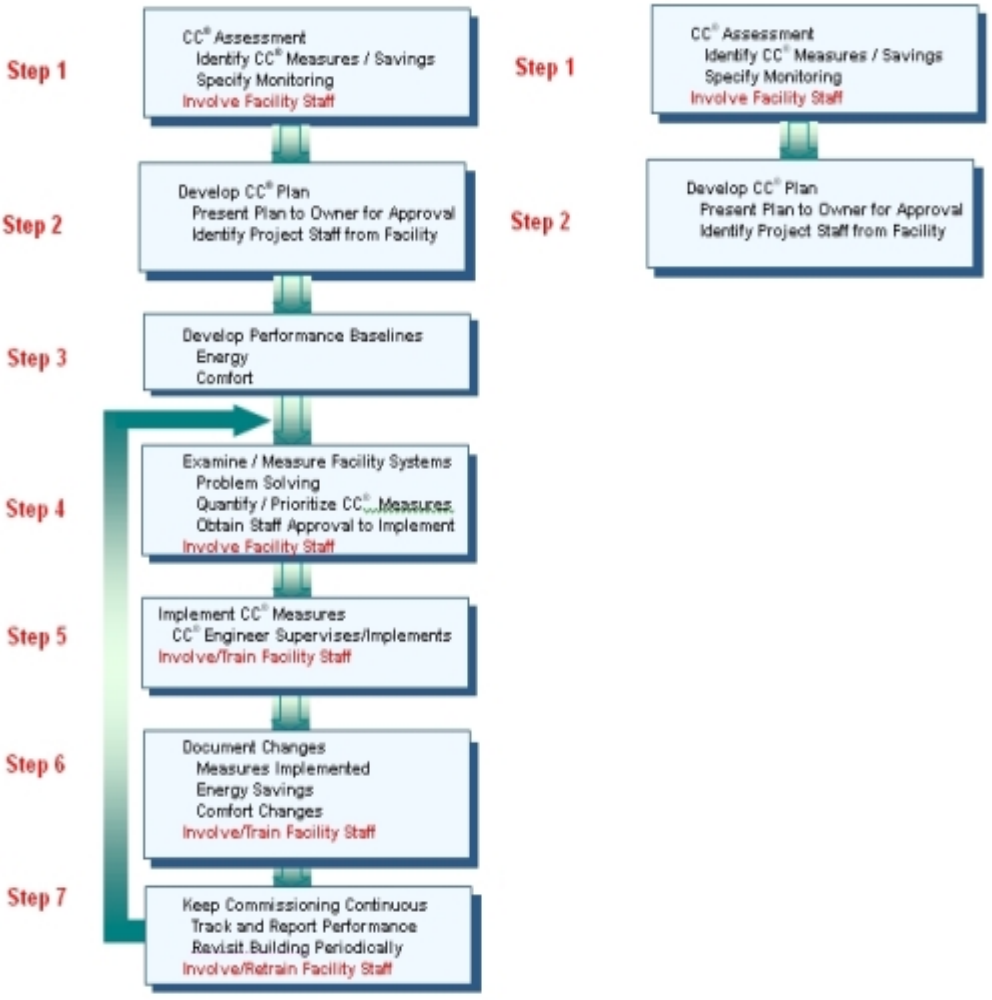



Figure 2. The Continuous Commissioning® Process.

Despite the clear and delineated processes, and the clear measurement and verification that will verify efficiency achieved through retro- and continuous commissioning, the measurement plans must be customized because the number of mWh's achieved in each facility is an art. Many software providers have built Continuous Commissioning algorithms, and many engineering firms retain practices in it. This is the most critical measure to open up to all certified providers in that sole-sourcing the rebates for such services would deny many the access to their own clientele.

**Pilot Start and End Dates**

The pilot will start in January, 2009, and continue through December, 2010. As the Benefit to Total Resource Cost ratio, and therefore the payments are calculated (reduced) assuming that they continue for the persistence of the measures, CPower expects that, with success, the payments will continue thereafter, in the event the pilot is continued.

## C. COMBINED HEAT AND POWER (CHP)

Combined Heat and Power (CHP) plants provide benefits to the electric system with respect to avoided build, avoided stress on the electric grid, additional efficiencies in utilization of fossil fuels, enhanced reliability, reduced emissions, additional efficiencies with respect to line loss, and enhanced national security due to distribution of resources. The current rebate environment for CHP offers no sustained benefit to offset stand-by charges for those who install larger systems, and quite extensive restriction with respect to exemptions from stand-by charges. Further, the New York Independent System Operator has determined in its Special Case Resources manual that CHP that operates at system peak and sells into Special Case Resource markets must have its capacity obligation grossed up to compensate, therefore negating the effect of the sale. Akin to energy efficiency, while the CHP does save some money for the end-user who installs the unit, many of the above social benefits cannot be monetized by the site owner. Unlike energy-efficiency, paybacks for CHP tend to be longer. CHP in the commercial, institutional residential and industrial sectors holds the potential to significantly narrow the gap between 2015 goals and projections of what we are expected to achieve in the base case. Without a unified benefit for the technology, we will not implement substantial CHP, over the next several years.

CPower's objective in offering the programs is to provide a level playing field for Combined Heat and Power in order to upgrade our infrastructure, further distribute supply, and avoid unnecessary build of transmission and distribution that's substantially funded by the rate

base. CPower has proposed an incentive cash flow that achieves a benefit to cost ratio of 2.5 for the operating years of a CHP.

In the 2009 – 2010 pilot period, CPower targets 200,000 MWh's of CHP to be achieved in 2009, and an annual CHP of 300,000 MWh's of CHP to be commissioned and operating by 2011. CPower considers these goals conservative as the firm has already identified a portion of this resource (see Appendix C).[3]

1. Standards

CHP systems that achieve average annual fuel-conversion efficiency of 67 percent will be eligible to receive incentives, where 'efficiency' is defined as "the sum of the total useful electrical and thermal energy output divided by total operational electrical and fuel energy input." Output that is "useful" is equivalent to output that is used in a "productive and beneficial manner" for purposes of section 210(n)(1)(A)(i) of the Public Utility Regulatory Policies Act, as interpreted and applied by the Federal Energy Regulatory Commission.[4] Annual fuel-conversion efficiency and percentages of electricity and thermal energy production will be assessed quarterly for the preceding four quarters, starting on the anniversary of initial certification. After the first year, compliance with the Commission's efficiency and production percentage requirements must be demonstrated each quarter as a prerequisite for qualification of incentives for the following quarter. Further data reporting will include electric inputs of kW at system peak and kWh in intervals of <15 minutes.

2. Metering

Electrical input to and output from a CHP facility will be measured with an appropriate watt-hour (Wh) meter or sub-meter, in accordance with Commission Metering and Telemetering Criteria which is consistent with "Revenue-grade metering." Non-electrical energy flows will be metered consistent with American

[3]

[4] See, FERC Docket No. RM05-36-000; Order No. 671, "Revised Regulations Governing Small Power Production and Cogeneration Facilities", p. 17-26.

Society of Mechanical Engineers (ASME) 3M or other appropriate prevailing standard(s) as approved by the Commission for measuring flow of materials; where direct metering is impractical, non-electrical energy flows will be determined using indirect measurement of appropriate parameters and calculation methods consistent with customary and responsible engineering practice. Aggregate data for the pilot will be provided to all market participants who request it. Specific customer data will remain private and segregated, as is CPower's process in its data systems approved by the NYISO, ISONE, PJM Interconnect, ERCOT, the CUC, MISO, and in Ontario.

CPower's Remote Operation Center ("ROC") is responsible for all data collection, calculations, monitoring, registration, auditing, maintenance, and collection. The ROC is located in North Adams, MA, segregated from CPower sales and marketing operations.

10. Pilot Duration

All facilities commissioned and operating at capacity, on or after August 7th, 2008 will be deemed eligible for incentives, through 12/31/2010. Continuation of the pilot would then continue facilities' eligibility for incentives through ten years from the date of commissioning, or through the close of the program, whichever comes first.

11. Program Evaluation

Failure to achieve registration of the target MWh's of CHP will be deemed as program failure. Evaluation, with respect to the useful energy output of the facilities, as well as of efficiency of inputs versus output will be performed by a neutral third-party Professional Engineer. The transparency and the objectivity of the process, as well as the certainty that the incentives received are equal to what can be received elsewhere, permits any qualified CHP installation to itself apply for Commission qualification and ensures that no delay in project decision-making will occur, due to some doubt that incentives will be available or that the offer will be superceded by some alternative incentive offer yet to come.

**Budget, Target MW's, Timetable & Contribution to address the gap:**

| Cogen/CHP | MWh achieved | % of MWh goal | $/MWh | total value | ratio | price cap | budget |
|---|---|---|---|---|---|---|---|
| 2009 | 175,000 | 15% | $ 135.59 | $ 23,728,607.71 | 2.5 | $ 54.24 | $ 9,491,443.09 |
| 2010 | 200,000 | 20% | $ 133.94 | $ 26,788,358.11 | 2.5 | $ 53.58 | $ 10,715,343.24 |

CPower intends to employ neutral third-party evaluation at a total cost of 5% of the budget. Evaluators will be submitted to the Commission for approval; it is likely that the firm will seek to employ either NYSERDA, in the evaluation, or to work with NYSERDA contractors to unify the evaluation process.

## D. RESIDENTIAL ENERGY EFFICIENCY

Residential energy efficiency initiatives are critical to:

1. Success of the 15 by 15 initiative, as residential consumption represents roughly one-third of all electricity consumed.
2. Equity, with respect to low-income participation, as well as broad participation in energy-reduction initiatives.

However, measurement and verification of residential initiatives is expensive per unit of energy efficiency identified. Surplus, and free-ridership contributions are difficult to quantify. Claims related to the impact of consumer-awareness, shelf-space, and, therefore to the contribution of programs that involve payments for marketing and advertising are open to question. Applying these claims to the calculation of particular benefit to cost ratios in a particular program creates market harm, in that that claim is not verifiable.

Therefore, standards that are objective and open to all participants are critical to supporting the residential energy-efficiency industry. The point-of-sale marketing and financing that comes with a retailer simply securitizing an incentive will, we believe,

reduce the need for marketing dollars spent elsewhere through rate-base financing, if it does not eliminate the need altogether. Marketing costs are borne by those who distribute the equipment that achieves the energy efficiency—more effective marketing is simply a cost of doing business in an open and transparent marketplace.

CPower's measurement and verification protocols for residential energy-efficiency are drawn from industry standards, recognized elsewhere. As with other measures, as the New York stakeholder process settles on verifiable standards for quantifying energy efficiency in residential facilities, we will harmonize standards and re-submit to the Commission

There are six categories of residential efficiency measures that we intend to incorporate into the overall proposed structure. Measurement and verification standards and algorithms are outline in attached Appendix D (category in bold and related measure below):

**Residential Appliances**

CLOTHES WASHER
DISHWASHER
REFRIGERATOR
REFRIGERATOR RETIREMENT
FREEZER
DEHUMIDIFIER RETIREMENT
DEHUMIDIFIER

**Residential Buildings – Lighting**

CFL LIGHT BULB (DIRECT INSTALL
CFL FXTURES (NEW HOMES)
CFL BULBS (RETAIL)
PORTABLE LAMPS
TORCHIERE
FIXTURE (HARD WIRED)
CEILING FAN & LIGHTS

**Residential Buildings - New Shell Improvements**

HIGH PERFORMANCE WALL INSULATION
HIGH PERFORMANCE CEILING INSULATION
INSTALL CEILING INSULATION
INSTALL WALL INSULATION

**Residential Water Heaters**

WATER HEATER THERMOSTAT SETTING
WATER HEATER WRAP
LOW FLOW SHOWERHEAD

**Residential Buildings - Shell Retrofits**

HIGH PERFORMANCE WALL INSULATION
HIGH PERFORMANCE CEILING INSULATION
INSTALL CEILING INSULATION
INSTALL WALL INSULATION

**Residential Buildings - HVAC Equipment Efficiency**

SEER 14 MIN AC
AC SYS TUNE-UP
HEAT PUMP
GEOTHERMAL HEAT PUMP
PUMP - DUCTLESS
ROOM WINDOW AIR CONDITIONER
DUCT SEALING
ROOM AC RETIREMENT

**Budget, Target MW's, Timetable & Contribution to address the gap:**

| Residential | MWh achieved | % of MWh goal | $/MWh | total value | ratio | price cap | budget |
|---|---|---|---|---|---|---|---|
| 2009 | 250,000 | 49% | $ 395.04 | $ 98,761,015.02 | 3.5 | $ 112.87 | $ 28,217,432.86 |
| 2010 | 300,000 | 30% | $ 295.92 | $ 88,776,439.44 | 3.5 | $ 84.55 | $ 25,364,696.98 |

In offering these programs, CPower aims to provide for the inclusion, not only of homeowners, but also of retail outlets in the state's energy efficiency program. By allowing consumers to register their credits at the point of sale, there is improved transparency in the

benefits of purchasing energy efficient products, and therefore greater incentive to purchase such products. The implementation process will be relatively painless once the structure is approved by the Commission. Ultimately, it would come down to quantifying the eligible savings from each available purchase, and communicating all that is necessary, about that measure to the Certification and Tracking entities and system, respectively, and storing the required affidavits and customer contracts in a database of end-users and measures.

Savings will be calculated using methods from the attached appendix, leaving several parameters to be entered at the point-of-sale. Such parameters will include the type of measure, the ZIP code of installation, and other measure-specific variables (i.e. for light bulbs: wattage, where and in what type of facility it is being installed).

Once eligibility is determined, end-users will have their products registered for credits at the sales counter itself. Such a process would apply to residential consumers as well as builders/contractors. In the latter case, deemed savings will be calculated from baselines with the contractors being asked to certify what was installed, and with CPower auditors conducting random visits to a statistically sampled subset of contractors' work, to ensure against fraud. Auditors will have the authority to suspend or revoke a contractor's license to self-certify.

In instances where prescribed calculations will not be suitable, custom measure calculations and accompanying M&V plans will be submitted to a neutral third-party Professional Engineers for certification through direct evaluation of larger projects on one site and through random statistical visits for multi-site, smaller projects.

MWh projected to be saved by each individual residential measure and the TRC for each measure is outline in Appendix E. Methodology for TRC calculations are outlined in the August 7, 2008 paper (Appendix A).

**Evaluation**

CPower intends to employ neutral third-party evaluation at a total cost of 5% of the budget. Evaluators will be submitted to the Commission for approval; it is likely that the firm will seek to employ either NYSERDA, in the evaluation, or to work with NYSERDA contractors to unify the evaluation process.

## IV. CONCLUSION

CPower respectfully request that the Commission select and fund our independent program as outlined in the above submittal. CPower seeks approval of our outlined energy efficiency programs and looks forward to working with the Commission should the Commission seek to implement the proposed programs. Please feel free to contact CPower with any questions, or if clarification is needed on any of the proposed energy efficiency proposed within this filing.

Respectfully submitted,

*/s/ B. Marie Pieniazek*

Marie Pieniazek
Senior Director, Market & Program Development, Northeast
CPower