

Summary of Revision

January 2014

1. The Attachment B –Project Summary Application has been updated to include language clarifying the requirement to include with the Application, documentation verifying the Applicant has communicated to the Customer Service Representative for each relevant utility the intent to install a Combined Heat and Power system.
2. The Attachment B –Project Summary Application has been updated to clarify that System Benefits Charge Gas or Electric rate payers are eligible to participate in the Combined Heat and Power Performance Program (PON 2701).
3. The Attachment B –Project Summary Application has been updated to include language clarifying NYSERDA's ability to communicate facility information with their respective utilities.



Combined Heat and Power (CHP) Performance Program
Program Opportunity Notice (PON) 2701
\$ 36,000,000

Applications accepted on a first-come, first-served basis through
December 30, 2016 by 5:00 PM Eastern Time*

PROGRAM SUMMARY:

The New York State Energy Research and Development Authority (NYSERDA) offers incentives to promote the installation of clean, efficient, and commercially available Combined Heat and Power (CHP) systems with an aggregate nameplate greater than 1.3 megawatts (MW) that provide summer on-peak demand reduction. Incentives are performance-based and correspond to the summer-peak demand reduction (kW), energy generation (kWh), and fuel conversion efficiency (FCE) achieved by the CHP system on an annual basis over a two-year measurement and verification (M&V) period. CHP Systems of 1.3 MW and less should refer to the NYSEERDA CHP Acceleration Program.

Incentive Structure*		
	Upstate	Downstate**
Combined Heat and Power	\$0.10/kWh + \$600/kW	\$0.10/kWh + \$750/kW
*Base CHP Incentives are capped at the lesser of \$2,000,000 per CHP project or 50% of Total Project Cost.		
**Electric and/or Gas Utility customers paying into the SBC within the following counties: Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk and Westchester		
Bonus Incentives, up to \$600,000, are available as noted under Bonus Incentives Available. Overall Incentives are capped at the lesser of \$2,600,000 per CHP Project or 50% of Total Project Cost.		

Interested applicants should review the NYSEERDA CHP Performance Program Systems Manual (Attachment A), which can be accessed using the link: www.nyserda.ny.gov/chppperform

If you have technical questions concerning this PON, contact:

Jim Hastings Phone: (518) 862 - 1090 - ext. 3492
Email: jth@nyserda.ny.gov

APPLICATION SUBMISSION: Interested applicants are encouraged to submit one (1) paper copy, with an original signature, and one (1) electronic copy of the application to:

CHP Performance Program Administrator
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, New York 12203-6399
CHPPperform@nyserda.ny.gov

All contractual questions should be directed to Venice Forbes, Contracts Department ((518) 862-1090 - ext. 3507 or vwf@nyserda.ny.gov).

*Late, incomplete, or unsigned applications will be returned. Faxed or e-mailed applications will not be accepted. Applications will not be accepted at any other NYSEERDA location other than the address above. If changes are made to this solicitation, notification will be posted on NYSEERDA's website at www.nyserda.ny.gov.

I. INTRODUCTION

Combined Heat and Power (CHP), also known as cogeneration, is an efficient, clean, and reliable approach to generating power and thermal energy from a single fuel source. Typical CHP customers include industrial, commercial, and institutional facilities. By installing a CHP System designed to meet the thermal and/or electrical base loads of a facility, CHP can greatly increase the facility's operational efficiency and decrease energy costs. Typically, CHP Systems are used to produce a portion of the electricity needed by a facility some or all of the time, with the balance of electric needs satisfied by purchase from the grid.

AVAILABLE FUNDS

Up to \$36,000,000 in funds are available through this PON and will be paid out on a first-come, first-served basis or until funds are exhausted. If additional funds become available, NYSERDA reserves the right to increase the total available funding under this PON.

II. CHP PERFORMANCE PROGRAM OVERVIEW AND ELIGIBILITY

CHP PERFORMANCE PROGRAM OVERVIEW

The **CHP Performance Program** funds installations of CHP Systems using energy, demand, efficiency, and environmental performance-based payments. The CHP Performance Program focus is on clean, efficient, cost effective gas-fired systems that maximize ratepayer benefit and system operation during summer peak demand periods. Systems are required to achieve 60% annualized fuel conversion efficiency, with incentive reductions for non-performance. To quantify the performance-based payments, the CHP Performance Program applies rigorous, multiyear system performance measurements.

CHP system viability is affected by external variables such as the spark spread (difference in cost of grid-supplied electricity and pipeline-supplied natural gas), siting and space constraints, adequate fuel supplies, environmental compliance, and interconnection issues. The CHP Performance Program assists end users in developing solutions to the interaction of these variables and uses a performance-based approach to support reliable and persistent energy, economic and environmental performance.

Applicants, entities receiving the approved incentive amount upon project completion and who will be responsible for delivering the energy savings, must meet the Eligibility Requirements as stated within the PON. Applicants can include third parties such as Energy Service Companies (ESCOs), facility owners, management companies, and/or tenants with the authority to make improvements.

See the Attachment A, CHP Performance Program Systems Manual, for CHP Performance Program definitions.

ELIGIBILITY REQUIREMENTS

- The applicant and/or host site must contribute to the Systems Benefits Charge (SBC) on their electric or gas utility bill.
 - For existing facilities, up to 12 months of utility bills may be requested to verify the host facility's annual SBC contribution.
 - All new construction applicants, including those in a negotiated rate class, must pay the SBC in order to be eligible for the CHP Performance Program.
 - Proration of incentives based on SBC contribution is at NYSERDA's discretion.
- The CHP System must consist of commercially available gas-fired reciprocating engine(s) or turbine-based technologies that result in an electrical peak demand reduction during the summer capability period.
- The CHP System must have a 60% annual fuel conversion efficiency
- The CHP System must have a NO_x emission rate ≤ 1.6 lbs/MW_{hr}. Should the New York State Department of Environmental Conservation (NYSDEC) establish a more stringent Nitrogen Oxides (NO_x) emission rate prior to the issuance of a permit, it will supersede the 1.6 lbs/MW_{hr} requirement.

- The CHP System must have the ability to operate during a grid outage.
- If the site is located within a flood zone then the CHP system, including all components required for proper operation (pumps, switch gear, etc) must be located above the expected flood level.
- The total incentive cannot exceed 50% of the project cost. Project cost may include equipment, labor, and engineering expenses.
- An Applicant or a Facility may receive an incentive for a CHP System either through NYSERDA or one of the associated utility companies, but not both.

INELIGIBLE SYSTEMS

Although not eligible under this program, these technologies may be eligible under other NYSERDA programs.¹

- Fuel Cells
- Aggregate Nameplate systems 1.3 MW or less
- A CHP System currently contracted for installation under another NYSERDA program, or projects eligible to submit to the customer sited tier of the Renewable Portfolio Standard

CONSOLIDATED EDISON STEAM SYSTEM CRITERIA

In accordance with the New York State Public Service Commission (hereafter, the “Commission”) Order in Case 10-M-0457, *Order Modifying Budgets and Targets for Energy Efficiency Portfolio Standard Programs and Providing Funding for Combined Heat and Power and Workforce Development Initiatives*, effective December 17, 2012, the following applies to current Consolidated Edison Company of New York (Con Edison) steam applicants.

NYSERDA will notify Con Edison of each approval of a project involving an applicant that is a current steam system customer, with information sufficient to support a steam displacement analysis.

Con Edison will perform an annual review of the impact of approved CHP projects on its minimum steam load at the same time that it completes its annual official steam sales forecast, and will file the results of its annual review with the Secretary of the Commission.

1. If Con Edison determines that the net aggregate impact of approved projects would be a reduction in minimum steam system load of 50 Mlb/hour (fifty thousand pounds per hour) or more, it will notify NYSERDA that this threshold has been reached. NYSERDA will thereafter give Con Edison an opportunity to review the potential impacts of any additional projects prior to approving any specific applications. Con Edison will have up to 30 days after being notified of an application to inform NYSERDA that the proposed project would have a substantial impact on minimum load and would contribute substantially to a risk of curtailment of the East River Units. Con Edison’s notification to NYSERDA must be accompanied by a detailed analysis.
 - i. If such a notification is not provided within 30 days, NYSERDA may proceed with the approval of the application.
 - ii. If Con Edison does provide a notification to NYSERDA, Con Edison will have 60 days within which to reach an agreement with NYSERDA and the applicant or in the alternative to petition the Commission for relief related to that particular application. Such a petition must include both a project-specific analysis and a system-wide analysis of current and projected minimum steam loads sufficient for the Commission to determine the continued usefulness and adequacy of the minimum load threshold. If Con Edison has not filed such a petition within 60 days of notifying NYSERDA of its concern, NYSERDA may proceed with approval of the application.
2. In addition, the Commission has adopted a limit on impacts on total annual steam sales volume of 1000 MMlb/year (one-million Mlbs per year).

¹ Please see NYSERDA’s RPS CST Fuel Cell Program PON 2157 or subsequent. Please see NYSERDA’s CHP Acceleration Program PON 2568 or subsequent for CHP systems 1.3 MW or less.

BASE INCENTIVES

Estimated funding may be set aside upon NYSERDA's receipt of a completed CHP application. Funds will not be contracted until NYSERDA approves the engineering analysis and issues an Agreement and Purchase Order to the Applicant. Project funding is not secure until a Purchase Order is issued. An Applicant will contract two (2) energy components: an annual Electricity Generation target in kilowatt hours (kWh) and a summer capability period Peak Demand Reduction target in kilowatts (kW_{SPC}).

Incentive Structure*	Upstate	Downstate**
Electricity Generation	\$0.10 x kWh	\$0.10 x kWh
Peak Demand Reduction	\$600 x kW _{SPC}	\$750 x kW _{SPC}
<p>*Base CHP Incentives are capped at the lesser of \$2,000,000 per CHP project or 50% of Total Project Cost. **Electric and/or Gas Utility customers paying into the SBC within the following counties: Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk and Westchester</p> <p>kWh - The projected annual kilowatt hour production stated in the NYSERDA Agreement, as agreed to between the applicant and NYSERDA based on the Engineering Analysis.</p> <p>kW_{SPC} - The projected average summer capability period peak demand reduction stated in the NYSERDA Agreement, as agreed to between the applicant and NYSERDA based on the Engineering Analysis.</p> <p>The summer capability period is between the hours of 12 pm and 6 pm, Monday through Friday, from May 1 through October 31, excluding legal holidays.</p>		

CHP Systems are subject to non-performance incentive reductions for not achieving the contracted summer peak demand reduction, minimum fuel conversion efficiency or the air emissions requirements. NYSERDA reserves the right to adjust project incentives at its sole discretion.

BONUS INCENTIVES AVAILABLE

CHP Systems may receive up to a 30% bonus incentive above the base incentive, up to \$600,000.

- A maximum of 10% additional incentive is available to those projects serving Critical Infrastructure, including Facilities of Refuge.
- A maximum of 10% additional incentive is available to those projects that are within a Targeted Zone as established by a utility as being a load service area of particular interest.
- A maximum of 10% additional incentive is available to those projects that demonstrate superior performance as determined by the measured fuel conversion efficiency (FCE).

Potential maximum incentives are capped at the lesser of \$2,600,000 per CHP Project or 50% of Total Project Cost.

Eligibility requirements are described within the CHP Performance Program Systems Manual.

INCENTIVE PAYMENTS

Incentives will be paid based on review and approval of the appropriate documentation and M&V data by NYSERDA or its consultant. See Attachment A, the CHP Performance Program Systems Manual for payment requirements and Bonus Incentive payment schedules.

Potential Incentive Payment Schedule	
Base Incentive	Brief Description
15%	Progress Payment Invoice – Bill of Lading
15%	Progress Payment Invoice – Interconnection Letter
10%	Project Installation Payment Invoice
30%	Completion of M&V Year 1 (contingent on performance)
30%	Completion of M&V Year 2 (contingent on performance)
100%	Total % of Contracted Base Incentive

INCENTIVE REDUCTIONS FOR NON-PERFORMANCE

CHP Systems are subject to non-performance incentive reductions for not achieving the:

- Contracted summer-peak demand reduction
- Contracted electricity generated
- Minimum required FCE
- Emissions requirements

MEASUREMENT AND VERIFICATION (M&V)

CHP systems will undergo M&V for a period of two (2) years. NYSERDA, or its consultant will create a M&V Plan in collaboration with the applicant, this plan will detail how M&V will be monitored and reported. The purpose of M&V is to quantify useful thermal heat recovery, energy generated, fuel consumed and summer peak demand performance. In addition, air emission testing will be performed to ensure CHP Performance Program compliance.

See Attachment A, the CHP Systems Manual, for additional details for how the M&V Plan will be created and implemented. Information regarding the instrumentation specifications is also provided.

All M&V data shall be transmitted to NYSERDA's CHP Website (<http://chp.nysERDA.ny.gov>)

III. PROGRAM PARTICIPATION

The following section provides an overview of participation in the CHP Performance Program. Please refer to NYSERDA's CHP Systems Manual (See Attachment A) for additional detail.

Application. The first step is for the applicant to submit a completed application for the proposed CHP system, including the required engineering analysis, CHP Performance Program forms, and electric and gas utility bills at the time of application. New Construction projects will need to certify their commitment to pay into the SBC-electric and/or SBC-gas.

The engineering analysis must meet the minimum requirements as stated within the CHP Systems Manual.

The following outlines the process for application review and approval:

- a. **Eligibility Review**
- b. **Pre-Installation Inspection**
- c. **Detailed Application Review**
- d. **Revised Application and Engineering Analysis**

Agreement and Purchase Order (PO). Upon approval of the revised application, NYSERDA will issue an Agreement to the Applicant. The Agreement, signed by both the Applicant and NYSERDA, specifies the Total Potential Project Incentive. After the Agreement has been fully executed by both parties, NYSERDA will issue a PO. Funds are reserved only upon NYSERDA's written approval of the Applicant's application and issuance of the PO.

Progress Payments. Progress Payments may be requested after the issuance of an executed Agreement and PO upon successful completion of CHP Performance Program milestones. Progress Payments are further defined with the CHP Systems Manual.

Interim Documentation Submission. Throughout the design and construction of the CHP System, the Applicant submits documentation to support the ongoing progress of installation. These documents may include, but are not limited to schematic design drawings, final construction documents, operation and maintenance agreements, and commissioning reports. NYSERDA's Technical Consultant will work with the Applicant to develop a M&V Plan. Interim Documentation is further defined with the CHP Systems Manual.

Post-Installation Inspection. After the CHP System has been installed and commissioned, the Applicant submits a commissioning report (third party) and contacts NYSERDA and its Technical Consultant to conduct a post-installation inspection of the CHP System to verify that the system specified in the executed Agreement has been installed and is operating according to its design intent. The NYSERDA Technical Consultant will also conduct emissions testing at this point to ensure CHP Performance Program compliance.

The NYSERDA Technical Consultant will provide a report summarizing the project and its ability to meet CHP Performance Program performance requirements. Upon acceptance of the Post-Installation Report and Applicant approval of the M&V Plan, measurement and verification will commence.

M&V Reporting. CHP Systems will undergo M&V for a period of two (2) years. The purpose of M&V is to quantify useful thermal heat recovery, energy generated, fuel consumed and summer peak demand performance. In addition, air emission testing will be performed to ensure CHP Performance Program compliance.

See Attachment A, the CHP Systems Manual, for additional details.

All M&V data shall be transmitted to NYSERDA's CHP Website (<http://chp.nyserda.ny.gov>)

IV. GENERAL CONDITIONS

GENERAL CONDITIONS

Proprietary Information - Careful consideration should be given before confidential information is submitted to NYSERDA as part of your proposal. Review should include whether it is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes.

The NYS Freedom of Information Law, Public Officers law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2)(d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise." Information submitted to NYSERDA that the Applicant wishes to have treated as proprietary, and confidential trade secret information, should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to exempt it from disclosure, including a written statement of the reasons why the information should be exempted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501 <http://nyserda.ny.gov/~media/Files/About/Contact/NYSERDAREgulations.ashx>. However, NYSERDA cannot guarantee the confidentiality of any information submitted.

Omnibus Procurement Act of 1992 - It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

Information on the availability of New York State subcontractors and suppliers is available from:

Empire State Development
Division For Small Business
30 South Pearl Street
Albany, NY 12245

A directory of certified minority- and women-owned business enterprises is available from:

Empire State Development
Minority and Women's Business Development Division
30 South Pearl Street
Albany, NY 12245

Contract Award - NYSERDA anticipates making multiple awards under this PON. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations. Each offer should be submitted using the most favorable cost and technical terms. NYSERDA may request additional data or material to support applications. NYSERDA will use the Sample Agreement to contract successful proposals. NYSERDA expects to notify applicants in approximately 4 weeks from the receipt of an application whether your application has been selected to receive an award.

Limitation - This PON does not commit NYSERDA to award a contract, pay any costs incurred in preparing a proposal, or to procure or contract for services or supplies. NYSERDA reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the solicitation when it is in NYSERDA's best interest.

Disclosure Requirement - The Applicant shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five (5) years, under the laws of the United States or any state or territory of the United States, and shall describe circumstances for each. When an applicant is an association, partnership, corporation, or other organization, this disclosure requirement includes the organization and its officers, partners, and directors or members of any similarly governing body. If an indictment or conviction should come to the attention of NYSERDA after the award of a contract, NYSERDA may exercise its stop-work right pending further investigation, or terminate the agreement; the applicant may be subject to penalties for violation of any law which may apply in the particular circumstances. Applicants must also disclose if they have ever been debarred or suspended by any agency of the United States Government or the New York State Department of Labor.

V. Attachments:

- Attachment A: CHP Performance Program Systems Manual
- Attachment B: Project Summary Application
- Attachment C: Environmental Assessment Form
- Attachment D: Sample Agreement

ATTACHMENT A

**NYSERDA
COMBINED HEAT & POWER
PERFORMANCE PROGRAM
SYSTEMS MANUAL**

**LAST UPDATE:
MARCH 2013**

INTRODUCTION

This document presents procedures for Combined Heat and Power (CHP) Systems participating in NYSERDA's *CHP Performance Program*. The CHP incentive offer is designed to achieve peak demand reduction during the summer capability period by providing performance-based incentives for efficient, clean, commercially available CHP Systems.

The document is divided into the following sections:

1.0 ELIGIBILITY

2.0 INCENTIVES

2.1 TOTAL PROJECT INCENTIVE FOR CHP SYSTEMS

3.0 PROGRAM PROCEDURES

Details the required submittals and the procedures involved in preparing and reviewing them. Included are discussions about the Engineering Analysis requirements, reporting estimated and verified energy savings, and invoicing for payments.

3.1 ENGINEERING ANALYSIS (EA) REQUIREMENTS

3.2 SCHEMATIC DESIGN REQUIREMENTS

3.3 COMMISSIONING REVIEW

3.4 INVOICING

4.0 MEASUREMENT & VERIFICATION (M&V)

Provides specifications for Applicants to follow during the M&V period. Reporting procedures, deliverables, and penalties for non-performance are also described.

4.1 M&V SPECIFICATIONS

4.2 M&V REPORTING

4.3 M&V NON-PERFORMANCE AND INCENTIVE REDUCTIONS

5.0 SEQRA AND PERMITTING

Details potential air and noise impact screening procedures and Applicant responsibilities for environmental impact assessment and permitting.

ATTACHMENT B: PROJECT SUMMARY APPLICATION

ATTACHMENT C: ENVIRONMENTAL ASSESSMENT FORM

The terms of the Program Opportunity Notice (PON) in effect at the time the Application is received by NYSERDA shall govern this program and set forth the eligibility requirements for participants and CHP Systems, the incentive payments, and general requirements.

This manual will be updated from time to time by NYSERDA and posted on NYSERDA's web site under the corresponding Program Opportunity Notice (PON); currently the CHP Performance Program is PON 2701. No additional notice will be provided.

SECTION 1.0 ELIGIBILITY

This Section describes the eligible CHP Systems.

Eligible CHP systems:

- The applicant and/or host facility must contribute to the Systems Benefits Charge (SBC) on their electric or gas utility bill.
 - For existing facilities, up to 12 months of utility bills may be requested to verify the host facility's annual SBC contribution.
 - All new construction applicants, including those in a negotiated rate class, must pay the SBC in order to be eligible for this program.
 - Proration of incentives based on SBC contribution is at NYSERDA's discretion.
- The CHP System must consist of commercially available gas-fired reciprocating engine(s) or turbine-based technologies that result in an electrical peak demand reduction during the summer capability period.
- The CHP System must have a 60% annual fuel conversion efficiency
- The CHP System must have a NO_x emission rate ≤ 1.6 lbs/MWhr. Should NYSDEC establish a more stringent NO_x emission rate the, it will supersede the 1.6 lbs/MWhr.
- The CHP System must have the ability to operate during a grid outage.
- If the site is located within a flood zone then the CHP system, including all components required for proper operation (pumps, controls, switch gear, etc) must be located above the expected flood level.
- The total incentive cannot exceed 50% of the project cost. Project cost may include equipment, labor, and engineering expenses.
- An Applicant or a facility may receive an incentive for a CHP System either through NYSERDA or one of the associated utility companies, but not both.

The following are ineligible:

Although not eligible under this program, these technologies may be eligible under other NYSERDA programs.¹

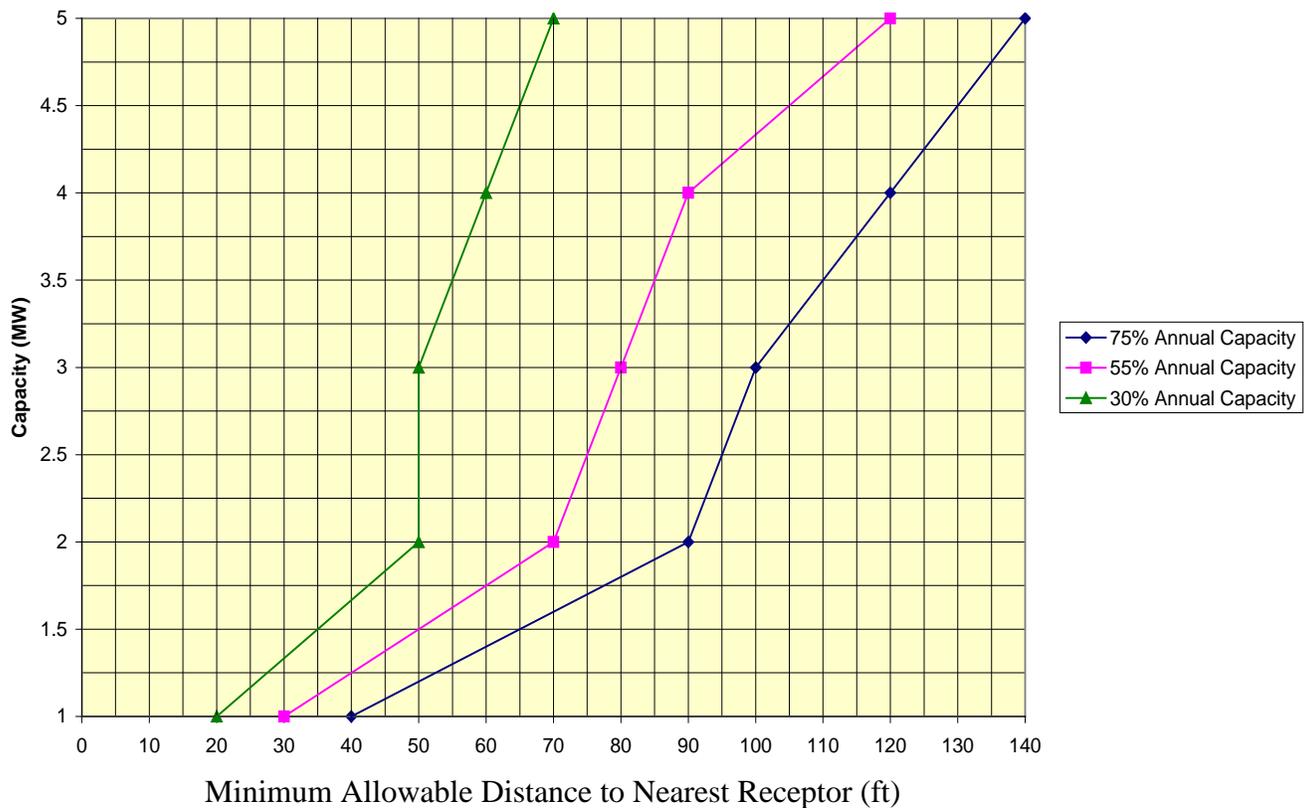
- Fuel Cells
- Aggregate Nameplate systems 1.3 MW or less
- A CHP System currently contracted for installation under another NYSERDA program, or projects eligible to submit to the customer sited tier of the Renewable Portfolio Standard

A CHP System is comprised of all electricity generating prime movers at a site and balance of plant equipment. Commissioned CHP System operations, emissions and efficiency must be documented and substantial reductions in incentives will occur for those CHP Systems that do not achieve required system efficiency, electric peak demand reduction or avoidance during the summer capability period, and the maximum allowable emissions.

¹ Please see NYSERDA's RPS CST Fuel Cell Program PON 2157 or subsequent. Please see NYSERDA's CHP Acceleration Program PON 2568 or subsequent for CHP systems 1.3 MW or less.

The proposed CHP system must meet the Clean Distributed Generation (“Clean DG”) definition. This “Clean DG” definition can be found in the New York State Public Service Commission’s Order (Order) on Demand Management Action Plan (Case 04-E-0572), effective March 16, 2006 (<http://www.dps.ny.gov/fileroom.html>). CHP Systems must not exceed a NOx emission limit of 1.6 lbs/MWhr. The Order also includes a specification on the allowable distance between the CHP system exhaust stack and the nearest receptor² shown below in Figure 1.1.

Figure 1. 1 Capacity vs. Minimum Distance to Avoid Significant Adverse Air Quality Impacts³



In addition to meeting the eligibility requirements listed above, the Applicant is responsible for complying with all applicable Federal, State, and Local emissions limits and regulations for the proposed equipment type and locations.

For “Clean DG” historical reference, CHP Systems between 500 kW and 1000 kW installed capacity, no significant impacts are predicted at or beyond 40 feet from the exhaust stack to a sensitive receptor; for CHP Systems below 500 kW, no significant impacts are predicted at or beyond 30 feet from the exhaust stack to a sensitive receptor.

² A **receptor** could include operable windows, balconies, and air intakes on nearby buildings (residential and commercial).

³ New York State Public Service Commission’s Order (Order) on Demand Management Action Plan (Case 04-E-0572), effective March 16, 2006.

SECTION 2.0 INCENTIVES

CHP Performance Program incentives are designed to encourage the installation of gas-fired CHP systems. Applicants will work with NYSERDA or its Technical Consultant to establish a Base Incentive and determine the eligibility of Bonus Incentives.

BASE INCENTIVES

CHP system Base Incentives include both an electricity generation and a peak demand reduction component.

Incentive Structure*	Upstate	Downstate**
Electricity Generation	\$0.10 x kWh	\$0.10 x kWh
Peak Demand Reduction	\$600 x kW _{SPC}	\$750 x kW _{SPC}
<p>*CHP Base Incentives are capped at the lesser of \$2,000,000 per CHP project or 50% of Total Project Cost. **Electric and/or Gas Utility customers paying into the SBC within the following counties: Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk and Westchester</p> <p>kWh - The projected annual kilowatt hour production stated in the NYSERDA Agreement, as agreed to between the applicant and NYSERDA based on the Engineering Analysis.</p> <p>kW_{SPC} - The projected peak demand reduction stated in the NYSERDA Agreement, as agreed to between the applicant and NYSERDA based on the Engineering Analysis.</p> <p>The summer capability period is between the hours of 12 pm and 6 pm, Monday through Friday, from May 1 through October 31, excluding legal holidays.</p>		

Measurement & Verification performance payments of the Base Incentive will be determined by NYSERDA and its contractors based on metered data collected and transferred to the NYSERDA CHP Data Integration Website as defined below.

CHP Systems are subject to non-performance incentive reductions for not achieving minimum fuel conversion efficiency and air emissions requirements (*see Section 4.3*). NYSERDA reserves the right to adjust project incentives at its sole discretion.

Peak Demand Reduction and Electric Generation Payment Calculation	
Upstate	Downstate*
\$600 x kW _p x [PR or 1, whichever is less]	\$750 x kW _p x [PR or 1, whichever is less]
\$0.10 x kWh _a	\$0.10 x kWh _a

*Electric and/or Gas Utility customers paying into the SBC within the following counties: Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk and Westchester

kWh_a - Total electricity generated by the CHP system in a 12 month period net of parasitic electricity use. NYSERDA's incentive will not be paid for electricity generated beyond on-site electricity usage. The comparison between the electricity generated by the CHP System and that used on-site will be assessed on an hourly basis.

kW_p - Average power produced by the CHP system during the summer capability period, net of parasitic electricity use. Electricity generated beyond on-site electricity usage will not be included in the calculation of kW_p. The comparison between the electricity generated by the CHP System and that used on-site will be assessed on an hourly basis.

PR - Power ratio. $PR = kW_p / kW_{SPC}$.

BONUS INCENTIVES

CHP Systems may receive up to 30% additional incentive above the Base Incentive as defined below:

- A maximum of 10% additional incentive is available to those projects serving Critical Infrastructure, including Facilities of Refuge.
 - Critical Infrastructure – Energy, Financial Services, Communications, Data Center/Information Technology, Hospitals, Emergency Service Facilities, Food Distribution, Prisons, Chemical Industry and Hazardous Material, Water and Wastewater, Transportation, Dams, Critical Manufacturing, Defense Infrastructure, and Nuclear Reactors (Materials and Waste).
 - Facilities of Refuge – As recognized by the American Red Cross or the local Office of Emergency Management, and the electric and thermal outputs of the CHP benefit the portion of the building designated as such.
- A maximum of 10% additional incentive is available to those projects that are within a Targeted Zone as established by a Utility as being a load service area of particular interest.
 - For information about Consolidated Edison Targeted Zones please check: http://www.coned.com/dg/incentive_programs/incentivePrograms.asp
- A maximum of 10% additional incentive is available to those projects that demonstrate superior performance as determined by the measured Fuel Conversion Efficiency.
 - For every 1% FCE above the 60% FCE achieved, a 1% additional incentive will be awarded
 - Each year of M&V is capped at a 5% additional incentive.
 - This incentive will be released at the completion of M&V Year 1 and M&V Year 2, as applicable.

2.1 TOTAL PROJECT INCENTIVE FOR CHP SYSTEMS

The Total Project Incentive, the sum of the Base Incentive (the sum of the kWh incentive and kW incentive) and the Bonus Incentives, is included in the Agreement. Incentives paid to an Applicant are capped at the lesser of the Total Project Incentive or 50% of Total Project Cost.

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- A progress payment of 15% of the Base Incentive may be issued by NYSERDA upon the Applicant's request upon proof of purchase and delivery of the generation equipment and heat exchangers (i.e. bill of lading).
 - A second progress payment of 15% of the Base Incentive may be issued by NYSERDA upon the Applicant's receipt of the interconnection letter from their applicable utility.
 - An additional payment, the "project installation payment", of 10% of the Base Incentive may be issued upon request and NYSERDA approval to start the M&V period. Starting M&V is contingent upon third party commissioning, a NYSERDA post-installation site visit, and a verification of emission limits via testing by NYSERDA's Environmental Reviewer.
 - If the Project applied for and is serving Critical Infrastructure, the 10% Bonus Incentive will be released at the start of M&V.
 - If the Project applied for and is operating in a Targeted Zone, the 10% Bonus Incentive will be released at the start of M&V.
 - The first year M&V payment of up to 30% of the Base Incentive will be made after the successful completion of the first year M&V period.
 - The second year M&V payment of up to 30% of the Base Incentive will be made after the successful completion of the second year M&V period.
 - If applicable, the superior performance Bonus Incentive will be paid at the completion of M&V Year 1 and M&V Year 2.
 - Each year is capped at 5%. The sum of the first year and second year Superior Performance Bonus Incentive must not exceed 10% of the Base Incentive

Incentives will not be paid in excess of 100% of the total project incentive stated in the Agreement.

SECTION 3.0 PROGRAM PROCEDURES

1. APPLICATION. The first step is for the Applicant to submit a completed application for the proposed CHP system. Please refer to the current Project Summary Application located as Attachment B. Applicants must also submit an engineering analysis (electronic spreadsheet-based model), supporting utility bills at the time of application, and the Environmental Assessment Form located as Attachment C.

The following outlines the process for application review and approval:

A. ELIGIBILITY REVIEW - NYSERDA will first review the application for program eligibility. The Applicant may be contacted by NYSERDA or its Technical Consultant for application clarification. After eligibility review, NYSERDA will issue a letter to the Applicant either accepting or rejecting the application for further review. If accepted, the letter will specify which

NYSERDA Technical Consultant(s) is assigned to the review. This usually takes 1 to 2 weeks.

B. PRE-INSTALLATION INSPECTION - The Technical Consultant conducts a pre-installation Project site inspection to verify the accuracy of the information in the application with regard to both existing conditions and the feasibility of installing the proposed CHP system. NYSERDA's Technical Consultant will schedule this site visit after an initial review of the engineering analysis.

C. DETAILED APPLICATION REVIEW – NYSERDA or its Technical Consultant will review the application and engineering analysis within 90 days and, if necessary, issue written comments to the Applicant requesting changes or clarification. The application and engineering analysis must be approved by NYSERDA.

D. REVISED APPLICATION – The Applicant submits a revised engineering analysis. Most likely, the application and engineering analysis will require clarification or updates.

2. AGREEMENT AND PURCHASE ORDER (PO): Upon approval of the revised application, NYSERDA will issue an Agreement to the Applicant. The Agreement, signed by both the Applicant and NYSERDA, specifies the Total Project Incentive. After the Agreement has been fully executed by both parties, NYSERDA will issue a PO. Funds are reserved only upon NYSERDA's written approval of the Applicant's application and issuance of the PO.

3. CHP DOCUMENTS (SCHEMATIC DESIGN, AIR PERMITTING, INTERCONNECTION AND OTHER): The Applicant has 90 days after receipt of the executed Agreement and PO to submit a copy of the schematic design, an instrumentation plan (IP) (described in *Section 4.1*), a copy of the air permit application, and documentation that the site has submitted interconnection approval. *Section 3.2 contains information on the Schematic Design requirements.*

At this point NYSERDA or its Technical Consultant will also begin discussions on commissioning plans. *Item 8 below and Section 3.3 provides further detail.*

The Applicant is responsible for ensuring that all the applicable State and Local permitting procedures are completed for the proposed Project. Most CHP Systems will require an air permit or permit modification with NYSDEC to ensure compliance with all State regulations. There are three (3) permit classifications depending upon the annual amount of each pollutant emitted: (1) Registration Permit (minor source); (2) State Facility Permit (minor source); (3) Title V Permit (major source). Typically, facility NO_x emissions will dictate the appropriate permit for a given installation. The Applicant is responsible for ensuring that all the applicable local and State and Federal permitting procedures are completed for the proposed project.

4. MEASUREMENT AND VERIFICATION (M&V): NYSERDA's Technical Consultant will work with the Applicant to develop a suitable M&V Plan. NYSERDA's Technical Consultant will provide specification language to the project's engineer of record for inclusion in the bid package. *M&V specifications and reporting requirements are presented in Section 4.0 of this document.*

The Applicant is responsible for the purchase and installation of sensors as described in *Section 4.1 M&V Specifications*. The site shall provide the necessary instrumentation and communications to monitor their CHP system including a phone line, internet access or other means of communication acceptable to NYSERDA and its Technical Consultant for remote data collection. Connecting sensors and meters to the data acquisition system will be the responsibility of NYSERDA's Technical Consultant.

The M&V data will be maintained within NYSERDA's CHP Data Integration Website ([NYSERDA DG/CHP Integrated Data System](#)). NYSERDA and its Technical Consultant will specify the savings analysis procedures and will provide data analysis services. This NYSERDA CHP Website will be used to prepare the M&V reports and determine the performance incentive for the Applicant.

5. CONSTRUCTION DOCUMENTS: Copies of the final design documentation shall be submitted to NYSERDA and should highlight any changes that have been made since the Schematic Design.

6. OPERATIONS AND MAINTENANCE (O&M) CONTRACT: NYSERDA requires that an O&M contract be in place for the duration of the M&V period to ensure that the CHP equipment is properly maintained. A copy of this agreement should be sent to NYSERDA.

7. PROGRESS PAYMENTS: Progress Payments may be requested after the issuance of an executed Agreement and PO at specified development times. Section 2.1 describes when such requests can be made.

8. COMMISSIONING: Third Party Commissioning is mandatory for all CHP systems. The Commissioning Agent must be under contract to the Applicant. *A detailed description of the deliverables is provided in Section 3.3.* The Applicant is responsible for submitting a Final Commissioning Report summarizing the results of the commissioning process. The report must include a summary discussion of the following items:

- The findings of the Construction Checklists
- The results of the Test Procedures and Test Data Reports
- Outstanding items in the Issues Log
- The results of the training process

9. POST-INSTALLATION INSPECTION: After review and approval of all required documents, the Applicant has 12 months to install the CHP system. After the CHP system has been installed (receipt of interconnection letter) and commissioned, the Applicant has 3 months to submit commissioning reports and contact NYSERDA and its

Technical Consultant to conduct a post-installation inspection of the CHP system to verify that the system specified in the executed Agreement has been installed and is operating according to its design intent. The NYSERDA Technical Consultant will also conduct emissions testing at this point to ensure program compliance.

The NYSERDA Technical Consultant will provide a report summarizing the project and its ability to meet program performance requirements. The Applicant will sign the summary report and add the following statement: “Additionally, I certify that the installation and commissioning of the CHP System described above have been completed and all requirements of the *NYSERDA Performance Program* are being adhered to.”

This is the final opportunity for the Applicant to request a revision to the estimated peak demand reduction. Any revisions require NYSERDA approval.

The energy generated and demand reduction estimates in the post-installation report may fall short of the earlier estimated energy generated and demand reduction based on the engineering analysis for one of the following two reasons:

1. The Applicant has met all of its obligations by properly installing the CHP System specified in the engineering analysis; however, project performance does not initially appear to meet expectations (based on spot measurements, observed operating conditions, etc.), or
2. The Applicant has not fulfilled its obligation by failing to properly install the CHP System specified in the engineering analysis.

In both cases, the Project Installation Payment may be reduced accordingly. However, in the first case, the maximum potential incentive may remain unaffected following the M&V period if the CHP System performs as estimated in the engineering analysis.

In the second case, NYSERDA reserves the right to reduce the maximum potential incentive based on the portion of work that was not completed in accordance with the approved engineering analysis. If the majority of work was not completed in accordance with the approved engineering analysis and the Applicant failed to provide timely notice of the change, NYSERDA may withhold any incentive payment. The Applicant has 60 days from the date of the rejection to provide necessary information and resolve all outstanding issues with NYSERDA.

10. M&V REPORTING: After installation and commissioning the Applicant has a maximum of 3 months to begin reporting M&V data. 30 days from the end of Year 1 of M&V, NYSERDA’s Technical Consultant will prepare an M&V report. The M&V report will include clear and verifiable data and describe the baseline assumptions and calculations used to calculate actual energy savings. The M&V report results will become the basis for the performance payment amounts. The M&V data will be in NYSERDA’s CHP Website. NYSERDA’s CHP Website will be accessible by the Applicant. In addition, overview and summary information regarding the Applicant’s project may be publicly available on NYSERDA’s CHP Website.

30 days from the end of Year 2 M&V, a second M&V report will be generated by NYSERDA's Technical Consultant.

11. PERFORMANCE PAYMENTS: NYSERDA will issue performance payments after reviewing, verifying, and approving the M&V report(s) of up to 30% of the total project incentive in the Agreement. Each payment will be based on the total verified electric energy generated and peak demand reduction during the summer capability period, after adjusting for differences between the estimated and verified energy savings. The sum of the progress payments and the performance payments may not exceed 100% of the total project incentive included in the Agreement. Performance payments are also subject to non-performance incentive reductions (*see Section 4.3*).

12. BONUS INCENTIVES: NYSERDA will issue two bonus incentives at the start of M&V Year 1, if applicable:

- A maximum of 10% additional incentive is available to those projects serving Critical Infrastructure, including Facilities of Refuge.
- A maximum of 10% additional incentive is available to those projects that are within a Targeted Zone as established by a Utility as being a load service area of particular interest.

and the third Bonus Incentive is available at the completion of each M&V Period (each year is capped at 5%).

- A maximum of 10% total additional incentive is available to those projects that demonstrate superior performance as determined by the measured Fuel Conversion Efficiency.

3.1 ENGINEERING ANALYSIS (EA)

This section includes a discussion of the requirements of the EA. The EA is submitted as part of the application and must be approved by NYSERDA. The estimated amount of electric energy generated and peak demand reduction or avoidance during the summer capability period in the approved EA will become the basis of the NYSERDA Incentive payable to the Applicant.

SUBMITTAL AND NOTIFICATION SCHEDULE

If an application is received without an EA, it will be rejected. An original and electronic version of the EA should be submitted to NYSERDA. The electronic copy shall include a spreadsheet-based model that describes system operation, including site-specific electricity produced and heat recovered on an hourly basis for one year.

EA REQUIREMENTS: The following information must be included in the EA:

SYSTEM INFORMATION

- Energy use profiles including electricity produced and heat recovered on an hourly basis for twelve months. Assumptions and description of the system operation

used in the model should be clearly indicated in the EA.

- The type and rating of the prime mover, an energy balance around the prime mover, including the uses for the recovered heat must be applied to a schematic of the system. Annual totals for each energy input/output must be shown along with maximum, minimum, and average instantaneous values. Temperatures for each waste heat transfer fluid and sink must also be indicated.
- CHP system efficiency and emissions must be described.
 - Annual thermal utilization percentage must be given (i.e., the annual amount of heat that is recovered for space and/or process heating and/or cooling divided by the annual recoverable thermal output from the prime movers).
 - Fuel conversion efficiency (FCE) for the prime movers must be provided. FCE is defined as the ratio expressed as a percentage of the total usable energy produced by a technology to the sum of all fuel or other energy inputs to the technology measured at each fuel's heating value. Please specify using Higher Heating Value (HHV). Please refer to calculation on page 21.
 - The annual emissions of the proposed system must be provided.
 - Any additional emission control technology must be provided if necessary to meet emission regulations.
- A preliminary floor plan indicating equipment location.
- The pressure and availability of gas must be described in the study.
- An operational sequence must be included that specifies the control system to be used along with a discussion of its integration with other on-site control systems and who will have responsibility for system operation.
- A project schedule that includes durations for design (engineering & architectural), utility coordination and review, permitting (environmental and construction), construction, start-up and commissioning must be provided.

ECONOMIC EVALUATION

- Electricity, fuel, operation and maintenance costs before and after the proposed installation on a monthly basis along with a summary of project economics must be included.
 - Electricity and fuel costs should be broken down by on-peak and off-peak periods. Electricity usage and costs should be further broken down by consumption and average daily demand.
 - Economics must be presented in a simple payback format. Additionally, a cash flow analysis or life cycle cost analysis must be presented.
 - Operational costs must include any impact to the customer's energy tariffs.
 - Maintenance costs can be listed in \$/kWh, but must also be annualized. This should include Applicant M&V costs.

Capital costs must include:

- Itemized equipment purchase and system installation
- Structural (new building, existing building modifications, etc)
- Interconnection and Utility Connection (construction & utility fees)
- Electrical distribution system changes
- Rigging, Permitting, Design fees, Commissioning

MAINTENANCE

- In addition to inclusion in the economic analysis described above, maintenance items must be described in detail. The source of the maintenance costs must be included along with a list of what would be covered (i.e. annual major overhaul of prime mover, oil changes, etc.).
- An estimate of downtime that would occur due to routine maintenance must also be included.

TARIFF IMPACTS AND INTERCONNECTIONS

- In addition to inclusion in the economic analysis described above, a detailed description of the relationship between the proposed CHP facility and the Customer's existing, or planned, energy tariffs must be included. Contract dates and dates of potential tariff rule changes must be included. In the case where such future changes would significantly impact the economics of the Project, sensitivity analysis must be presented assuming the potential tariff or contract changes occurred.
- Site-specific grid interconnection issues and costs must be discussed. A brief, clear plan for if and how the system will be properly interconnected to the grid, natural gas pipelines and/or the Con Edison steam system must be presented.

PERMITTING

- A brief description of the necessary environmental and building permits that the Customer needs to obtain must be provided. The permit determination should be based on the annual emissions potential for the size of the unit and the emissions of any existing equipment at the facility. Anticipated time frames and durations for environmental, utility and construction permitting should be incorporated in the Project schedule.

SYSTEM RELIABILITY AND AVAILABILITY

- The reliability and availability of the CHP System must be quantified (e.g. number of hours the system would be available at less than full capacity). This must be compared to service and discussed in the context of the Customer's core business and tolerance for risk.

3.2 SCHEMATIC DESIGN REQUIREMENTS

All Applicants are required to submit a copy of the schematic design to NYSERDA. The following provides a listing of specific information that must be included in the schematic design.

EQUIPMENT OPERATING SPECIFICATIONS

- Equipment capacity and predicted summer-peak demand reduction
- Annual:
 - Operating efficiency
 - Fuel input
 - Electric (kWh) output (less parasitic electric use)
 - Waste heat generated
 - Waste heat usable
- Operating noise level
- Emissions parameters
- Systems reliability and uptime requirements

EQUIPMENT LAYOUT

- Schematic Plans should be developed showing the following:
 - Floor plan showing equipment location within the building, or if an addition is required to house the equipment
 - Layout of major pieces of equipment location including, generator, stack, switchgear, gas booster and heat rejection equipment
 - Utility interconnection location including electrical, gas, and steam (if applicable)
 - Sensor locations to meet program M&V requirements
 - Any required changes to the building's structural components
- Indicate required maintenance and service clearances
- Discuss means of rigging for large components
- Indicate means of noise attenuation
- Indicate means of providing makeup air

SITE WORK REQUIREMENTS

- Any large scale trenching, additional utility poles, ground repairs, etc must be described and detailed.

PERMITTING & INSPECTION

- Responsibilities for permitting, inspections and signoffs must be specified.

3.3 COMMISSIONING REQUIREMENTS

Construction phase commissioning is required for all CHP systems. The Commissioning Agent (CxA) must be under contract to the Applicant, and shall be a third party independent of the design team and the construction team. The commissioning process

must include the following deliverables, which will be reviewed by the NYSERDA Technical Consultant.

ISSUES LOG AND ISSUES REPORTS

- A spreadsheet, database or text document tracking commissioning related issues throughout the Cx process must be maintained by the CxA. The Issues Log must include at a minimum a description of the issue, the date the issue was identified, the party responsible for resolving the issue, the documentation of the resolution, and the date of resolution.
- Issues Reports summarizing outstanding items in the Issues Log must be submitted monthly to the NYSERDA Technical Consultant.
- A final Issues Report summarizing any outstanding items, as well as a Resolved Issues Report summarizing all issues that were raised and resolved during the commissioning process must be included in the Final Commissioning Report described below.

FINAL DESIGN REVIEW

- A review of the final design documents must be performed by the CxA prior to issuance of bid/construction documents. The intent of the final design review is to ensure adherence with the EA and compliance with the CHP program requirements. Additionally, the review should verify that construction checkout documentation, system testing, staff training and close-out documentation is sufficiently specified. Issues identified during the design review should be listed in the Issues Log.

CONSTRUCTION CHECKLISTS

- The CxA must develop a detailed Construction Checklist for each primary piece of equipment. The purposes of these checklists are to (1) aid the NYSERDA Technical Consultants by providing specific information on the installation requirements for the equipment/assembly and (2) formally document for the NYSERDA Technical Consultant that the installation contractor has fully installed and calibrated the equipment. Each checklist must include:
 - Equipment/assembly verification (equipment make, model, capacity, etc. that was specified, then submitted and finally installed)
 - Pre-installation checks (equipment condition at delivery, equipment voltage, mounting point configuration, etc).
 - Installation checks (controls installed, equipment grounded, vibration isolation, piping complete, piping specialties installed, venting/ductwork installed, etc).
- The Start-Up Report should be attached to the Construction Checklist upon completion.
- The CxA must perform spot check verifications in the field of the items attested to on the Construction Checklists by the Technical Consultant(s).

TEST PROCEDURES AND TEST DATA REPORTS

-
- The CxA must develop detailed procedures for testing the operational sequences (including safeties) of the CHP System. These Test Procedures are then executed by the site operator, in the presence of the CxA and owner, prior to turning the system over to the owner.
 - Note that this testing is not the same as system start-up, which is performed by the installation contractor or Project Developer as part of the tuning process.
 - The Test Procedures shall include testing, at a minimum, the following sequences:
 - System enable/startup including staging (if multiple prime movers are used)
 - Normal system shutdown
 - Emergency system shutdown
 - All safety sequences (low gas pressure, high gas pressure, overcurrent, over/under voltage, etc.)
 - Utility to CHP System power transfer and isolation
 - The CxA must develop Test Data Reports formally documenting the results of the Test Procedures. The reports must list the key design performance specifications of the installed equipment that will affect the system overall annual fuel utilization, list of the measured performance during the initial post-installation test and the test conditions, and list the measured performance after the system commissioning is complete, if any adjustments were made.
 - Emissions testing must also be documented by the CxA. Copies of test reports for all emissions testing must be compiled and included in the Systems Manual described below.
 - Settings and test procedures required by a Utility must also be documented and verified by the CxA.

3.4 INVOICES

This section presents the procedures involved in the preparation, submittal, and processing of the invoices that Applicants must submit to receive incentive payments.

SUBMITTING THE INVOICE

An Applicant will use its own invoice form to request payment and will submit the following invoices to NYSERDA over the course of a Project. At any time, the total of all payments may not exceed 50% of documented costs incurred for the purchase of the CHP System.

- Progress Payment Invoice – Bill of Lading: It is for up to 15% of the Base project incentive stated in the Agreement. It is submitted after the equipment is delivered to the site.
- Progress Payment Invoice – Interconnection: It is for up to 15% of the Base project incentive stated in the Agreement. It is submitted after the interconnection approval is received by the site.
- Project Installation Payment Invoice: This invoice, based on energy generation and kW generation estimates, is for up to 10% of the Base project incentive stated in the Agreement. It is submitted following NYSERDA's approval of both the installation and the Applicant's request to start M&V.

-
- **Bonus Payment – Critical Infrastructure:** If the Project applied for and is serving Critical Infrastructure, the 10% Bonus Incentive will be released at the start of M&V Year 1.
 - **Bonus Payment – Targeted Zone:** If the Project applied for and is serving within a Targeted Zone, the 10% Bonus Incentive will be released at the start of M&V Year 1.
 - **1st M&V Invoice:** Based on the approved M&V plan, there are two performance invoices. The 1st M&V Invoice is for the balance of up to 30% of the Base project incentive stated in the Agreement. It is submitted following NYSERDA's approval of the first M&V Report.
 - **2nd M&V Invoice:** The 2nd M&V Invoice is for the balance of up to 30% of the Base project incentive stated in the Agreement. It is submitted following NYSERDA's approval of the second (and final) M&V Report.
 - **Bonus Payment – Superior Performance:** If the Project meets the requirements of Superior Performance up to a 10% Bonus Incentive will be released. Each year of M&V is capped 5%.

The M&V performance payments may be reduced if the installed CHP System fails to achieve the energy savings as established within the Agreement or underperforms on emissions or fuel conversion efficiency (see *Section 4.3*).

SECTION 4.0 MEASUREMENT & VERIFICATION (M&V)

This section specifies the rules, procedures, roles and responsibilities of measurement and verification (M&V) for CHP systems.

The purpose of M&V is to quantify:

1. Generator power output (kW) at 15-minute intervals during key on-peak periods;
2. Cumulative energy generated and used on-site by the CHP System (MWh) on an annual basis;
3. Annual fuel conversion efficiency;
4. NOx emissions;
5. CO emissions.

All M&V data shall be transmitted to NYSERDA's CHP Website (<http://chp.nyserderda.ny.gov>). Incentives will be paid based on review and approval of the M&V data by NYSERDA or its Technical Consultant. Incentives shall be based upon generator output minus ancillary or parasitic loads.

4.1 MEASUREMENT & VERIFICATION SPECIFICATIONS

M&V will involve the Applicant as well as several NYSERDA Technical Consultants. The Applicant is responsible for ensuring that data collected and transmitted to NYSERDA and its Technical Consultants accurately represents the operation of the CHP

system.

NYSERDA and its Technical Consultants will:

- Provide oversight and quality control for the monitoring and verification efforts;
- Confirm the necessary data collection instrumentation is installed by the site and install any additional data collection systems (hardware and software) required to transfer data to NYSERDA's CHP Website;
- Verify sensor readings, document sensor locations, and develop a CHP system description (schematics, specifications, and narrative) to document that collected data meet program goals;
- Validate the monitored data and load it into NYSERDA's CHP Website;
- Confirm the validity of the collected data, define error checking procedures; and
- Integrate the site documentation to the NYSERDA's CHP Website.

THE M&V PROCESS

The M&V process includes:

- Specification, approval, procurement and installation of the required instrumentation by the Applicant or Applicant representative;
- Installation and verification of monitoring equipment during the commissioning process by NYSERDA's Technical Consultant;
- Automatic loading and verification of the collected data into NYSERDA's CHP Website over the verification period, 2 years arranged by NYSERDA's Technical Consultant; and
- Periodic determination of performance based on the net measured power output, CHP efficiency, and NO_x and CO emissions levels measured by NYSERDA's Technical Consultant.

SPECIFYING, PROCURING, AND INSTALLING INSTRUMENTATION

The Applicant is responsible for supplying and installing the instrumentation necessary to characterize the energy flows of the CHP system (see requirements in Table 1) as well as a communication medium (phone, broadband or other medium as agreed to with NYSERDA or its Technical Consultant) at the site. Table 2 provides examples of instrumentation specifications. The Applicant shall submit an Instrumentation Plan (IP) that includes a list of proposed instrumentation, along with a system schematic or drawing showing the location of each instrument. The IP will be submitted by the site as part of the design document submittal. The list of instrumentation shall include manufacturer, model numbers, accuracy specifications, instrument range and other pertinent data.

Manufacturers "cut sheets" may also be provided. The system schematic must show a

simplified representation of the CHP System along with pertinent information to demonstrate proper sensor placement and installation. NYSERDA will review and approve the IP. If submitted information is inadequate or incomplete, NYSERDA's Technical Consultant will work cooperatively with the Applicant to develop an acceptable IP.

Once the IP is approved, NYSERDA's Technical Consultant will prepare a draft M&V Plan that documents the measurements and how they will be used to calculate the required information. The M&V Plan will be provided to the Applicant for review and comment.

The Applicant will procure and install the specified instrumentation per the manufacturer's instructions and based on feedback from NYSERDA's Technical Consultant. Once the instrumentation is installed, NYSERDA will visit the site and confirm the specified instrumentation is properly installed.

INSTALLING AND VERIFYING THE MONITORING SYSTEM

Before CHP System operation begins, NYSERDA's Technical Consultant will work with the Applicant to install a data collection system that uses the instrumentation and communications provided by the site. General monitoring guidelines in NYSERDA's Monitoring and Data Collection Standard for DG/CHP Systems [2] and the ASERTTI DG/CHP Long Term Monitoring Protocol [3] will be followed. The system will log or record data at least 15 minute intervals, averaging or integrating readings as required providing accurate and meaningful readings. Heat transfer calculations will be performed at a minimum of 15 second intervals. The resulting heat transfer values (BTU or equivalent) will be averaged and logged to at least 15 minute intervals. The monitoring system shall have on-board storage sufficient to retain a minimum of 14 days of data in the event that communications or site power is lost. The system will automatically transfer data to the NYSERDA's CHP Website at least once per day.

Correct functioning of all instrumentation and sensors will be verified with handheld sensors or by another independent method during the CHP system commissioning process. NYSERDA's Technical Consultant will confirm that the installed system is capable of measuring the net power output, after considering parasitic or auxiliary power use of the system. Parasitic power may be determined by recording power or equipment runtime readings at least 15 minute intervals, and/or by taking one-time true power readings with handheld meters. NYSERDA's Technical Consultant may also provide and install additional instrumentation to measure equipment loading, speed, current draw or duty cycle for variable parasitic loads such as pumps and fans. Similarly, NYSERDA's Technical Consultant will confirm that the measured thermal output from the system used in the CHP efficiency calculations represents heat recovery that displaces fuel or energy consumption from a boiler, furnace, chiller or other system.

NYSERDA's Technical Consultant will update the M&V Plan based on the actual equipment installed at the site. The M&V Plan will include a schematic of the CHP

System and instrumentation, provide verification details, instrument multipliers, and one-time readings; and provide calculation procedures for determining net power output and CHP efficiency. The M&V Plan will be posted on the NYSERDA CHP Website as part of the project documentation.

LOADING AND VERIFICATION INTO THE NYSERDA CHP WEBSITE

Once the on-site monitoring system is installed and verified, NYSERDA's Technical Consultants will work together to setup an automated process to load the collected data into the database at least daily. Automatic error checking and screening procedures will also be established to gauge the data quality and to notify appropriate Project team members if a sensor failure or other abnormality occurs at a site. NYSERDA's Technical Consultant will carefully analyze and review the first few weeks of data and the M&V Plan to confirm the validity of the collected data.

ANNUAL EMISSION AND EFFICIENCY PERFORMANCE VERIFICATION

The emissions performance of the CHP system will be checked by NYSERDA's Technical Consultant three times during the project: (1) prior to the start of M&V (2) at the end of the first M&V Period, and (3) at the end of the second M&V Period.

NYSERDA's Technical Consultant will calibrate and check onsite sensors. The annual performance validation will include:

- Emissions testing for NO_x, CO, and non-methane HC using a portable analyzer or equivalent (EPA CTM 030, <http://www.epa.gov/ttn/emc/ctm/ctm-030.pdf>);
- Fuel meter calibration or function test; and
- Power meter and thermal metering field calibration checks.

TABLE 1. PROVISIONAL INSTRUMENTATION REQUIREMENTS FOR CHP SYSTEMS

This table defines the instrumentation requirements for the site. If the instrumentation is used by the on-site control system, provisions must be made to also provide additional outputs from each sensor as agreed to with NYSERDA. The following basic instrumentation shall be supplied, installed and commissioned by the site:

- a power meter with an accuracy of at least 1% that is capable of supplying either a kWh pulse output, 4-20 mA kW output, or other output as agreed with NYSERDA or its Technical Consultant for the following points:
 - generator output
 - facility power consumption
 - parasitic loads generator or heat recovery system loads (one time measurements with equipment runtime may also be acceptable)
- a fuel meter, other than the utility meter, with an accuracy of $\pm 1\%$ to measure generator fuel consumption. The meter should be temperature and pressure

- compensated (if located outdoors or in an unconditioned space). Uncompensated meters may be permissible if located in conditioned space and if gas pressure is less than 1 psig,
- a liquid or steam flow meter, as applicable, with an analog output that is capable of measuring 120% of the nominal flow rate. The meter must be installed per the flow meter manufacturer’s instructions. For hot water flow meters, an accuracy of $\pm 1\%$ is required. For steam flow meters, an accuracy of $\pm 1\%$ is required with temperature (and pressure) measurements
 - At a minimum, ¼ inch thermowells must be provided by the site at appropriate locations in the system.
 - Instrumentation signal wiring pulled to a central location as agreed upon with NYSERDA or its Technical Consultant.

TABLE 2. EXAMPLE INSTRUMENTATION SPECIFICATIONS

Measurement	Example Instrument Make / Model(s)	Recommended Accuracy	Instrument Output	Supplied by
power generation	Wattnode WNA-3Y-480-P meter with CTS-1250-400A SHARK-100 Schneider Electric Power Logic ME3	ANSI C12.1 and 1% full scale accuracy required ANSI C12.20 and 0.2% full scale recommended	Solid state pulse output or 4-20 mA or MODBUS	Site
fuel flow rate	Roots Series B3 8C175	$\pm 1\%$ reading	Solid state pulse output	Site
CHP Loop flow rate	Onicon F1200 Insertion Turbine Nice Titan Shedding Vortex	± 1 percent full scale	Scaled Pulse Output or 4/20 mA	Site
supply and return water temperature	10,000 ohm 10k Type II thermistors	± 1 °F	Resistance	NYSERDA Technical Consultant
heat recovery rate	Onicon System 10 Badger 380 Contrec 212	$\pm 2\%$ reading	Only BTU meters with extended output (MODBUS) providing flow and temperature readings along with thermal energy are acceptable	Site

DEFINITIONS AND CALCULATION PROCEDURES

Net power output in the on-peak period is defined as

$$kWp = \frac{\sum_{j=1}^T (kWh_{output,j} - kWh_{parasitic,j})}{T}$$

where T is the number of hours in the on-peak period. The cumulative annual energy output (kWh_a) will be determined by the same method, but will be summed for all hours of the 12-month period.

The annual CHP efficiency (based on higher heating value) is defined by:

$\eta_{chp,HHV} = \frac{\left(\frac{\sum_{i=1}^{8760} Q_{useful,i}}{0.80} \right) + 3,412 \cdot \left(\sum_{i=1}^{8760} kWh_{output,i} - \sum_{i=1}^{8760} kWh_{parasitic,i} \right)}{HHV_{gas} \sum_{i=1}^{8760} gas_{input,i}}$	
$Q_{useful,i}$	Useful heat recovery provided for hour i (Btu)
$kWh_{output,i}$	Generator power output provided for hour i (kWh)
$kWh_{parasitic,i}$	Parasitic power consumption for CHP system for hour i (kWh)
$gas_{input,i}$	Generator gas input for hour i (cu ft)
HHV_{gas}	Higher heating value for natural gas supplied at site from utility bills, average of 12 months (Btu per cu ft)
0.80	nominal boiler efficiency
3,412	Conversion of kWh to Btu
8,760	number of hours in a year. For determining a monthly CHP efficiency, substitute the number of hours in the month

Useful heat recovery is:

- thermal output that displaces fuel use in a boiler, furnace or other system,
- thermal input into a chiller, desiccant system, or other system that provides a useful output or service such as cooling or dehumidification.

Parasitic power is electricity consumption by a component that, in the absence of the CHP system, would not be required at the facility. This includes controls, pumps, fuel compressors and fans associated with the generator, used to provide heat recovery to the load, or used to reject unneeded heat. Parasitic power can be the sum of several power measurements, or be derived from one-time power readings with component runtime information.

PROCEDURE TO ACCOUNT FOR LOSS OF MEASURED PERFORMANCE DATA

The formulas above are used to calculate the average on-peak power output (kW_P), the annual energy output (kWh_a), and the annual CHP efficiency (η_{chp}). These values form the basis for determining the performance incentive. In some cases, a sensor or monitoring system failure or other problem at the site may result in data being lost or failing to pass the data validation process for part of the performance period (i.e., a M&V outage). If data loss occurs, the following procedures will be used to calculate the necessary performance information to determine the incentive:

- The ***net power output*** for the missing period, will be determined by taking the average output measured from similar length periods just prior and just after the M&V outage. This procedure will be used for up to two M&V outages for up to 36 hours each per 12 month period. If more than two M&V outages occur per 12-month period, then the site shall be required to provide independent cumulative meter readings or other documentation to demonstrate that the CHP system power output during M&V outage. Otherwise, the generator output will be assumed to equal zero for the outage period.
- The ***CHP efficiency*** of the system for an M&V outage period will be determined using measured performance from similar periods when the CHP system operated normally, as determined by the NYSERDA Technical Consultant. If thermal and power output varies with ambient temperature or other weather conditions, then temperature-dependent correlations or trends will be used to predict the performance during the M&V outage. If CHP system performance varies seasonally or weekly, appropriate similar periods will be used to predict performance during the M&V outage.

References

- [1]. *Interim Distributed Generation and Combined Heat and Power Field Testing Protocol*, Association of State Energy Research and Technology Transfer Institutions, Madison, WI, October 2004.
- [2]. *Monitoring and Data Collection Standard for Distributed Generation/Combined Heat and Power (DG/CHP) Systems*, chp.nyserda.org (under Links section), December 2002.
- [3]. *Distributed Generation and Combined Heat and Power Long Term Monitoring Protocol*, Association of State Energy Research and Technology Transfer Institutions, Madison, WI, April 2005.

4.2 MEASUREMENT AND VERIFICATION (M&V) REPORTS

This section presents a review of the submittal procedures and schedules and a discussion of the content of the reports.

SUBMITTING THE M&V REPORTS

NYSERDA will prepare the M&V reports. NYSERDA will submit the M&V reports to the Applicant for approval and the Applicant may then submit an invoice based on the savings in the M&V report. The Applicant is responsible for ensuring that data collected and transmitted to NYSERDA and its Technical Consultants accurately represents the operation of the CHP system.

FIRST M&V REPORT

The first M&V report shall be issued within 30 days after the first performance period ends. This report will include the results of the emission testing as well as the energy generated and the kW generated during the summer capability period. The required performance period will be defined in the approved M&V plan and may extend for up to 12 months.

SECOND M&V REPORT

The second M&V report is due 30 days after the second performance period ends. This report will include the results of the emission testing as well as the energy generated and the kW generated during the summer capability period.

M&V INSPECTION

Periodically, NYSERDA may choose to visit a project site to verify that the information provided is accurate with regard to Project equipment, site conditions, and monitoring configurations. These inspections may occur at any time after project installation, both prior to and after the preparation of an M&V report by NYSERDA. Should NYSERDA decide to inspect a site, NYSERDA, or its Technical Consultant may or may not contact the Applicant to schedule the inspection. In other words, an inspection may occur without advance notice given to the Applicant. If the M&V activities are found to be different from those represented in either the M&V plan or the M&V report, NYSERDA may refuse any further incentive payments. If NYSERDA deems an inspection necessary, an M&V report that is under development will not be submitted to the Applicant for approval until the inspection has been completed.

4.3 NON-PERFORMANCE AND INCENTIVE REDUCTIONS

CHP system incentives are based on the Applicant's ability to generate electricity and provide peak summer demand reduction using clean and efficient CHP Systems. CHP System incentives are subject to incentive reductions for not achieving minimum fuel conversion efficiency and air emission requirements.

NON-PERFORMANCE

Incentives will be reduced if the CHP System does not meet the minimum performance requirements stated in this Section 3.3. The required actions of an Applicant and the reduction in incentives resulting from the failure to meet the requirements are as follows:

EMISSIONS

- CHP Systems that do not achieve 1.6 lbs/MWh or lower in NO_x emissions and 6.3 lbs/MWh or lower in CO emissions will be given a period of time to take corrective action. If the correction action fails to bring the Project into compliance or should the improvements be deemed invalid, then no further payments will be issued. Emissions testing will occur after commissioning and at the end of each year of M&V for a total of three times.

EFFICIENCY

- FCE greater than 55 and less than 60%
 - The Applicant's M&V payment for the project will not be reduced.
- FCE between 50 and 55%
 - The Applicant's M&V payment for the project will be reduced by 50% for that year of M&V.
- FCE less than 50%
 - The Applicant will not be eligible to receive an M&V payment for that year of M&V.

POWER RATIO

- The incentive for any project that achieves a Power Ratio ($\text{kW}_p/\text{kW}_{\text{SPC}}$) of less than 1.0 will be prorated for that year of M&V.

CORRECTIVE ACTION (FOR EMISSIONS ONLY)

NYSERDA will allow the Applicant to take corrective action for a system that does not meet the program's emission requirements. The following is the corrective action process:

- The Applicant will be required to submit a corrective action plan (CAP) to NYSERDA for approval within 30 days of notification of non-performance;
- Upon approval by NYSERDA, the Applicant has a further 60 days in which to implement the CAP; and
- The system modifications will then be inspected and measurements repeated to confirm that the corrective action has resulted in compliance.
- If the system fails to meet the Program emission requirements no further incentive payments will be administered.

SECTION 5.0 STATE ENVIRONMENTAL QUALITY REVIEW ACT (SEQRA) AND PERMITTING

STATE ENVIRONMENTAL QUALITY REVIEW ACT (SEQRA):

NYSERDA will carefully review the environmental impact of all potential CHP systems. NYSERDA is required under SEQRA to consider the environmental implications of all funded projects. All proposals must include a completed SEQRA environmental assessment form (EAF), along with supporting documentation.

This Section presents screening procedures to determine if a CHP system has the potential for significant air quality and noise impacts as defined in the New York State Public Service Commission's Order (Order) on Demand Management Action Plan (Case 04-E-0572), effective March 16, 2006. A project that is deemed to have the potential for significant environmental impact by the screening procedures or does not meet the screening criteria will require further analysis to demonstrate no significant adverse environmental impacts. This analysis may include dispersion modeling to demonstrate compliance with all appropriate air quality standards and criteria. The methodology used for such modeling analysis will follow the guidance published by the New York State Department of Environmental Conservation (NYSDEC) and, if applicable, guidance provided by the local regulatory agency.

SCREENING PROCEDURE

The Applicant shall provide NYSERDA with the completed NYSERDA Environmental Assessment Form as part of the application. Each CHP system will be reviewed by the Environmental Technical reviewer to determine whether any potential significant adverse air quality or noise impacts exist.

PERMITTING

Most CHP systems will require an air permit with NYSDEC to ensure compliance with all State regulations. There are three (3) permit classifications depending upon the annual amount of each pollutant emitted: (1) Registration Permit (minor source); (2) State Facilities Permit (minor source); and (3) Title V Permit (major source). Typically, facility NO_x emissions will dictate the appropriate air permit for a given installation.

The Applicant is responsible for ensuring that the proposed project complies with all Federal, State and local codes and regulations, including, but not limited to those specifically identified on Page 43 of the PSC Order on Demand Management Action Plan (Case 04-E-0572) (<http://www.dps.ny.gov/fileroom.html>), effective March 16, 2006.

The Applicant is responsible for ensuring that the system receives all pertinent Federal, State and local permits.

INSTRUCTIONS FOR COMPLETING THE ENVIRONMENTAL ASSESSMENT FORM:

Line Number and Name		Specific Instructions
Unit Data		
1	Unit Manufacturer	Enter the name of the CHP Unit Manufacturer
2	Model Number	Provide the model number for the unit to be installed (this is provided by the manufacturer).
3	Model Year	Provide the model year for the unit to be installed (this is provided by the manufacturer).
4	Equipment Rating (MW)	Provide the size of the unit be installed, or equipment rating in Mega Watts (MW).
5	Fuel Type and Usage	Provide the type of fuel and the maximum hourly fuel consumption in cubic feet per hour or gallons per hour.
6	Distance of Exhaust Stack to Nearest receptor (ft)	Using the proposed location and height of the exhaust stack, find the horizontal distance, in feet, to the nearest receptor which is at a height similar to or greater than the stack. A receptor could include the nearest functional window or air intake shart/fan.
NOISE		
7	What is the equipment noise rating in dBA without noise attenuation equipment and the distance at which these measurements were made?	Provide the noise level (in dBA) for the equipment to be installed. This information is generally available from the manufacturer.
8	Noise Code Compliance	Does the unit comply with local noise codes or ordinances? (where there is no local noise code, the NYC noise code should be used). eg. In NYC, Noise Control Code Title 24, Subchapter 6, Section 24-243. New York City Zoning Resolution Article IV, Section 42-21. CEQR Technical Manual, 2001, Section 3R and Appendix B. *All units must comply with local noise codes.
9	Will sound attenuation equipment (mufflers, silencers) be required to meet noise code?	Is the rated noise level of the equipment to be installed above that allowed by the local noise code? (where there is no local noise code use the noise levels from the NYC noise code).
10	What sound attenuation equipment will be installed?	Provide a description of the type of sound attenuation equipment that will be installed (e.g. silencer)
11	If sound attenuation equipment is required, what will be the resultant noise rating in dBA?	When the sound attenuation equipment is installed on the equipment what will be the final noise level?
AIR QUALITY		
12	Is the proposed unit between 0.5 and 5 MW?	Using manufacturer's information (line 10 above), if the proposed unit rating falls within the range of 0.5

		to 5 MW answer Y, otherwise answer N.
13	Will the annual capacity be between 30 and 75%?	If the planned usage of the unit is within the range of 30 to 75 %, answer Y, otherwise answer N.
14	Is the proposed CHP exhaust stack located on the tallest building onsite where reasonable?	In addition to answering, please include nearest building distance and height
15	Exhaust Stack Height (feet) above Structure	Enter the height of the exhaust stack in feet above the structure
16	Exhaust Stack Height (feet) above Ground	Enter the height of the exhaust stack in feet above the ground
17	Exhaust Stack Diameter (in)	Enter the diameter of the exhaust stack in inches
18	Exhaust Gas Exit Velocity (ft/s)	Enter the velocity of the gas leaving the exhaust stack in feet/second
19	Exhaust Gas Flowrate (acfm)	Enter the flowrate of the exhaust gas in actual cubic feet per minute (acfm)
20	Exhaust Gas Temperature (deg F)	Enter the temperature of the exhaust gas in degrees F
21	Exhaust Gas NOx emission rate (lbs/MW-hr)	Enter the emission rate for the unit of NOx in lbs/MW –hr. This data can be obtained from the manufacturer.
22	Exhaust Gas CO emission rate (lbs/MW-hr)	Enter the emission rate for the unit of CO in lbs/MW – hr. This data can be obtained from the manufacturer.

CHP SYSTEMS MANUAL - DEFINITIONS

Applicant. Entity responsible for fulfilling Program requirements as outlined in the CHP Systems Manual and that which receives incentive payments.

Bill of Lading. A document issued by a carrier to a shipper, listing and acknowledging receipt of goods and specifying terms of delivery.

Clean DG. The proposed CHP system must meet the Clean Distributed Generation (“Clean DG”) definition. This “Clean DG” definition can be found in the New York State Public Service Commission’s Order (Order) on Demand Management Action Plan (Case 04-E-0572), effective March 16, 2006 (<http://www.dps.ny.gov/fileroom.html>).

Combined Heat and Power (CHP). The simultaneous production of both electricity and thermal energy to be utilized at the host facility.

CHP System. A CHP System is comprised of all electricity generating prime movers associated with the Project and balance of plant equipment.

Commissioning. A systematic process of detailed documentation and verification designed to ensure that systems are installed and perform interactively according to the owner’s programmatic and operational needs and the design intent.

Construction Documents. Final design documents (drawings and specifications) fully describing and detailing all aspects of the project. Documents describe to the Technical Consultant what is to be built and the construction standards to be adhered to.

Electricity Generated. Electricity generated net of any system parasitic or ancillary equipment use.

Engineering Analysis (EA). Submitted with the application, it is the required detailed information about the Applicant’s proposed CHP System, including equipment surveys, projected electricity generated and peak demand reduction.

Facility: Owner or tenant of site at which the CHP project is implemented. The facility must contribute to the Systems Benefit Charge on their electric or gas bill.

Fuel Conversion Efficiency (based on higher heating value) is defined by:

$$\eta_{chp,HHV} = \frac{\left(\sum_{i=1}^{8760} Q_{useful,i} \right) + 3,412 \cdot \left(\sum_{i=1}^{8760} kWh_{output,i} - \sum_{i=1}^{8760} kWh_{parasitic,i} \right)}{0.80 \cdot HHV_{gas} \sum_{i=1}^{8760} gas_{input,i}}$$

$Q_{useful,i}$	Useful heat recovery provided for hour i (Btu)
$kWh_{output,i}$	Generator power output provided for hour i (kWh)

$kWh_{\text{parasitic},i}$	Parasitic power consumption for CHP system for hour i (kWh)
$gas_{\text{input},i}$	Generator gas input for hour i (cu ft)
HHV_{gas}	Higher heating value for natural gas supplied at site from utility bills, average of 12 months (Btu per cu ft)
0.80	nominal boiler efficiency
3,412	Conversion of kWh to Btu
8,760	number of hours in a year. For determining a monthly CHP efficiency, substitute the number of hours in the month

Installation Phase . The phase that includes preparation of the proposed CHP System designs and specifications, equipment procurement and installation, commissioning and completion of the Project Installation Report.

kW. One kilowatt of electricity.

kW nameplate. The full load net continuous rated generating capacity of the CHP system.

kWh. One kilowatt-hour of electricity.

kW_a (Electricity Generated) Total electricity generated by the CHP system in a 12 month period net of parasitic electricity use. NYSERDA's incentive will not be paid for electricity generated beyond on-site electricity usage. The comparison between the electricity generated by the CHP System and that used on-site will be assessed on an hourly basis.

kW_p (Peak Demand Reduction) Average power produced by the CHP system during the summer capability period, net of parasitic electricity use. Electricity generated beyond on-site electricity usage will not be included in the calculation of kW_p . The comparison between the electricity generated by the CHP System and that used on-site will be assessed on an hourly basis.

kW_{SPC} - The projected peak demand reduction, as agreed to between the applicant and NYSERDA in the Agreement.

Measurement and Verification (M&V). The process of monitoring and measuring the performance of the CHP System. Such M&V shall be set forth in the M&V Plan.

Parasitic power. Electricity consumption by a component that, in the absence of the CHP system, would not be required at the facility. This includes controls, pumps, fuel compressors and fans associated with the generator, used to provide heat recovery to the load, or used to reject unneeded heat. Parasitic power can be the sum of several power measurements, or be derived from one-time power readings with component runtime information.

Performance Phase. The final phase of the Project that commences on the approval of the Project Installation Report.

Power ratio (PR). The ratio of the achieved peak demand reduction to the projected peak demand reduction (kW_p/kW_{SPC}).

Project. The CHP System contemplated herein and described in the PA. It consists of the CHP system and all associated equipment or improvements that are installed in a single building by the Applicant to achieve the Total Project Incentive.

Project Application (PA). The Applicant's initial submission to NYSERDA which includes a Project Summary Application (Attachment B), an Engineering Analysis (EA), an Environmental Assessment Form (Attachment C), and, if applicable, a copy of recent electric and fuel utility bills

Project Installation Report (PIR). The detailed description of the installed Project including an equipment inventory, the operating conditions and schedule, up-dated savings calculations, and a commissioning report for the installed CHP System.

Receptor. The locations where potential air emissions would have an impact, these could include operable windows, balconies, and air intakes on nearby buildings (residential and commercial).

Schematic Design. Preliminary design documents (drawings and/or specifications) describing the scope and primary components of the project. Documents identify the major design issues and layout how these issues will be addressed.

Site. One or several adjacent buildings, or group of buildings on a contiguous site, owned or operated by a single Entity.

Summer On-Peak or Summer Capability Period. The period May 1 to October 31, and the hours between 12 PM and 6 PM, Monday to Friday, excluding legal holidays.

Total Project Cost. All costs directly associated with the Energy Savings and Demand Savings of the Project, including, but not limited to: the cost of the EA; CHP system design, procurement and installation; associated overhead and profit; and costs of any sensors or meters installed by the Applicant for the purpose of M&V.

Useful heat recovery.

- thermal output that displaces fuel use in a boiler, furnace or other system,
- thermal input into a chiller, desiccant system, or other system that provides a useful output or service such as cooling or dehumidification.

ATTACHMENT B – PROJECT SUMMARY APPLICATION

Combined Heat and Power - Performance Program

PON 2701

PART I: CONTACT INFORMATION

Applicant: Entity responsible for fulfilling Program requirements as outlined in the CHP Systems Manual and that which receives incentive payments.

Applicant Information		
Applicant/Company Name		Contact Name
Address 1		Day Phone
Address 2		Mobile
City		E-mail
State	Zip	Federal ID# (Must be linked to Applicant Name)

Facility: Owner or tenant of site at which the CHP project is implemented. The Facility must contribute to the Systems Benefit Charge (SBC) on their electric or gas utility bill.

Facility Information	
Facility Name/Organization	Contact Name
Address 1	Day Phone
Address 2	Mobile
City, State, Zip	E-mail
Facility Status	Facility Type

Developer/Consultant Company: Point of contact for the engineering analysis, site design, and construction management.

Developer Information	
Developer/Company Name	Contact Name
Address 1	Day Phone
Address 2	Mobile
City	E-mail
State	Zip

PART II: UTILITY INFORMATION

Utility Information*	
For an Existing Facility please populate with main accounts and data from previous 12 months, if New Construction* please check the following box. <input type="checkbox"/>	
Electric Utility	Account Number(s)
Purchased Electric (kWh)	Average Demand (kW)
Natural Gas Utility	Account Number(s)
Purchased Gas (MMBtu)	
Steam Utility	Account Number(s)
Purchased Steam (MLbs)	
Attach documentation to verify the Applicant has communicated to the Customer Service Representative for each relevant utility the intent to install a Combined Heat and Power system.	
*NYSERDA reserves the right to inform utilities of CHP projects in their territory	

PART III: PROJECT INFORMATION

Project Information	
Estimated Total Project Cost (\$)	
Aggregate Nameplate of CHP System	kW
Annual Electricity Generated from CHP	kWh
Summer On-Peak Demand Reduction	kW

Please check all that may apply at application.	
Yes <input type="checkbox"/> No <input type="checkbox"/>	This project is designated for critical infrastructure, including facilities of refuge
Yes <input type="checkbox"/> No <input type="checkbox"/>	This project is located in a utility defined electric grid constrained area
Yes <input type="checkbox"/> No <input type="checkbox"/>	This project is designed to exceed the minimum Fuel Conversion Efficiency of 60%, Higher Heating Value

PART IV: AGREEMENT TO TERMS AND CONDITIONS

I understand that the Facility is or will be a distribution customer of a New York State investor-owned utility contributing to the electric or gas based Systems Benefit Charge (SBC). I understand that this application may not be approved if the requirements of the Program are not met. I understand that the submission of this application authorizes NYSERDA to discuss the submitted utility information with the respective utilities. I understand that payments will be contingent on meeting the terms and conditions of the Program as set forth in the CHP Systems Manual.			
Applicant/Company Name		Facility Name (Required unless same as Applicant)	
Print Name & Title		Print Name & Title	
Authorized Signature	Date	Authorized Signature	Date

ATTACHMENT C – ENVIRONMENTAL ASSESSMENT FORM

Unit Data		
1	Unit Manufacturer	
2	Model Number	
3	Model Year	
4	Equipment Rating (MW)	
5	Fuel Type	
6	Distance of Exhaust Stack to Nearest receptor (ft)	
NOISE		
7	What is the equipment noise rating in dBA without noise attenuation equipment and the distance at which these measurements were made?	
8	Noise Code Compliance	Yes <input type="checkbox"/> No <input type="checkbox"/>
9	Will sound attenuation equipment (mufflers, silencers) be required to meet noise code?	Yes <input type="checkbox"/> No <input type="checkbox"/>
10	What sound attenuation equipment will be installed?	
11	If sound attenuation equipment is required, what will be the resultant noise rating in dBA?	
AIR QUALITY		
12	Is the proposed unit between 0.5 and 5 MW?	Yes <input type="checkbox"/> No <input type="checkbox"/>
13	Will the annual capacity be between 30 and 75%?	Yes <input type="checkbox"/> No <input type="checkbox"/>
14	Is the proposed CHP exhaust stack located on the tallest building onsite where reasonable?	Yes <input type="checkbox"/> No <input type="checkbox"/>
15	Exhaust Stack Height (feet) above Structure	
16	Exhaust Stack Height (feet) above Ground	
17	Exhaust Stack Diameter (in)	
18	Exhaust Gas Exit Velocity (ft/s)	
19	Exhaust Gas Flowrate (acfm)	
20	Exhaust Gas Temperature (deg F)	
21	Exhaust Gas NO _x emission rate (lbs/MW-hr)	
22	Exhaust Gas CO emission rate (lbs/MW-hr)	

Attachment D

**COMBINED HEAT & POWER
PERFORMANCE PROGRAM AGREEMENT**

BETWEEN

**NEW YORK STATE ENERGY RESEARCH
AND DEVELOPMENT AUTHORITY**

AND

CUSTOMER

Agreement No. #####

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LIST OF ATTACHMENTS

Exhibit A	Total Contracted Project Incentive
Exhibit B	CHP Performance Program Systems Manual
Exhibit C	Standard Terms and Conditions for All NYSERDA Agreements
Exhibit D	Prompt Payment Policy Statement

AGREEMENT

This Agreement dated and effective as of the XX day of XXXX, 2013 by and between the **New York State Energy Research and Development Authority** (hereinafter referred to as "NYSERDA") with its principal office located at 17 Columbia Circle, Albany New York, 12203-6399, and XXXXXX [Applicant] (hereinafter referred to as the "Applicant"), with offices located at XXXXXXXXXXXXXXXXXX. The Applicant is responsible for fulfilling CHP Performance Program requirements as outlined in the CHP Performance Program Systems Manual and is the entity that receives incentive payments. From time to time, NYSERDA and the Applicant may be individually referred herein as a "Party" and collectively as the "Parties."

In consideration of the mutual promises and agreements herein expressed, NYSERDA and the Applicant hereby agree as follows:

ARTICLE 1: DEFINITIONS

§1.1. Definitions. Unless the context otherwise requires, the terms defined below shall have, for all purposes of this Agreement, the respective meanings set forth below, the following definitions to be equally applicable to both the singular and plural forms of any of the terms defined.

Agreement. This Agreement and Exhibits A, B, C, and D, all of which are made a part hereof as though herein set forth in full.

Bill of Lading. A document issued by a carrier to a shipper, listing and acknowledging receipt of goods and specifying terms of delivery.

Clean CHP. A proposed Combined Heat and Power (CHP) meeting the Clean Distributed Generation ("Clean DG") definition, prescribed by the New York State Public Service Commission's Order (Order) on Demand Management Action Plan (Case 04-E-0572), effective March 16, 2006 (www.dps.ny.gov/fileroom.html).

CHP System. A Clean CHP comprised of all electricity generating prime movers at a site and balance of plant equipment.

Combined Heat and Power (CHP). The simultaneous production of both electricity and thermal energy to be utilized within the host facility.

Commencement Date. The start of the Performance Phase, at the time of NYSERDA's acceptance of the Project Installation Report (PIR).

AGREEMENT FOR CHP SYSTEMS

Commissioning. A systematic process of detailed documentation and verification designed to ensure that systems are installed and perform interactively according to the owner's programmatic and operational needs and the design intent.

Contracted Peak kW Reduction (kW_{SPC}). The projected peak demand reduction, agreed to between the Applicant and NYSERDA in this Agreement, and attached as Exhibit A.

Demand Savings. Summer On-Peak Period baseline electric demand (kW) less Summer On-Peak Period post-installation electric demand (kW). For CHP Systems, the demand savings are equal to the on-peak period power (kW) generated by the system net of any power use by parasitic or ancillary equipment associated with the CHP System.

Electricity Generated. Electricity generated net of any system parasitic or ancillary equipment use.

Electricity Generated (kW_a). Total electricity generated by the CHP System in a 12-month period net of parasitic electricity use.

Effective Date. The effective date of this Agreement shall be the date in the first paragraph of page one.

Energy Analysis (EA). Refers to the required detailed information about the Applicant's proposed CHP System, including equipment surveys, projected electricity generated and peak demand reduction. The EA shall be prepared in accordance with the CHP Systems Manual.

Energy Savings. The amount of electric energy savings expressed in kilowatt-hours (kWh), kilowatts (kW), and/or the amount of net thermal energy savings expressed in mmBtus, made available during the time periods specified herein through load reduction by the Project as measured and verified according to the NYSERDA-approved Measurement and Verification (M&V) Plan. For CHP Systems the electric energy savings are equal to the electric energy generated net of any system parasitic or ancillary equipment use. NYSERDA's incentive will not be paid for electricity generated beyond on-site electricity usage. The comparison between the electricity generated by the CHP System and that used on-site will be assessed on an hourly basis.

CHP Performance Program Systems Manual. The NYSERDA CHP Performance Program Systems Manual in effect at the time the application is received by NYSERDA. The CHP Performance Program Systems Manual incorporates PON 2701 by reference.

Fuel Conversion Efficiency (FCE): The fuel conversion efficiency is determined by the formula:

$$\frac{((\text{kWh generated} - \text{kWh ancillary loads}) * 3,412 \text{ btu/kWh}) + (\text{btus of reclaimed heat used on site} / 0.80)}{\text{Btus of fuel consumed (Higher Heating Value (HHV))}$$

AGREEMENT FOR CHP SYSTEMS

Installation Phase. The phase of the Agreement that includes preparation of proposed CHP System designs and specifications, equipment procurement and installation, commissioning and completion of the PIR.

kW. One kilowatt of electricity.

kW Incentive. Financial incentive attributable to electrical power generated during the Summer On-Peak Period.

kW nameplate. The full-load, net, continuous-rated generating capacity of the CHP System minus ancillary generating system loads, as indicated in the PA.

kWh. One (1) kilowatt-hour of electricity.

kWh incentive. Financial incentive attributable to annual electrical energy generated.

Measurement and Verification (M&V). The process of monitoring and measuring the performance of the CHP System. Such M&V shall be set forth in an M&V Plan prepared in accordance with the CHP Performance Program Systems Manual.

Parasitic Power. Electricity consumption by a component that, in the absence of the CHP System, would not be required at the facility. This includes controls, pumps, fuel compressors and fans associated with the generator used to provide heat recovery to the load, or used to reject unneeded heat. Parasitic power can be the sum of several power measurements, or be derived from one-time power readings with component runtime information.

Peak Demand Reduction (kW_p). Average power produced by the CHP System during the summer capability period, net of parasitic electricity use. Electricity generated beyond on-site electricity usage shall not be included in the calculation of kW_p . The comparison between the electricity generated by the CHP System and that used on-site will be assessed on an hourly basis.

Performance Phase. The final phase of the Agreement that commences on the approval of the PIR.

Power Ratio. The ratio of the achieved peak demand reduction to the projected peak demand reduction (kW_p/kW_{SPC}). This ratio will be applied to determine the kW Incentive at the end of Year 1 and Year 2.

Project. The CHP System contemplated herein and set forth in Exhibit A of this Agreement, and as further described in the Project Application (PA). It consists of the CHP System and all associated equipment or improvements that are installed by the Applicant to achieve the Total Contracted Project Incentive claimed within this Agreement.

AGREEMENT FOR CHP SYSTEMS

Project Application (PA). The Applicant's initial submission to NYSERDA which includes a EA, an environmental assessment form (EAF), and, if applicable, a copy of recent electric utility and fuel bills.

Project Installation Report (PIR). The detailed description of the installed Project including an equipment inventory, the operating conditions and schedule, updated savings calculations, and a commissioning report for the installed CHP System.

Project Term. The term of this Agreement as defined in Section 2.2 hereof.

Receptor. Location where potential air emissions would have an impact; it could include one (1) or more operable window(s), balconies, and air intake(s) on nearby buildings (residential and commercial).

Schematic Design. Preliminary design documents (drawings and/or specifications) describing the scope and primary components of the project. Schematic Design documents identify the major design issues and layout how these issues will be addressed.

Site. One (1) or several adjacent buildings, or group of buildings on a contiguous site, owned or operated by a single entity.

Summer On-Peak or Summer Capability Period. The period May 1 to October 31, and the hours between 12 PM and 6 PM, Monday to Friday, excluding legal holidays.

Total Contracted Project Incentive. The dollar amount listed in Exhibit A of this Agreement. It is the not-to-exceed amount that the Applicant can receive for delivering the projected Electricity Generated, Peak Demand Reduction, and Fuel Conversion Efficiency. Exhibit A defines the Total Contracted Project Base and Bonus Incentive dollar values.

Total Project Cost. All costs directly associated with the Energy Savings and Demand Savings of the Project, including, but not limited to: the cost of the EA; CHP System design, procurement and installation; associated overhead and profit; and costs of any sensors or meters installed by Applicant for the purpose of M&V.

Useful Heat Recovery

- Thermal output that displaces fuel use in a boiler, furnace or other system,
- Thermal input into chiller, desiccant system, or other system that provides a useful output or service such as cooling or dehumidification.

ARTICLE 2: PROJECT ORGANIZATION

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§2.1. Project Organization. The Project contemplated herein shall be implemented in accordance with the Agreement and in three (3) phases: Design, Installation and Performance. The Design Phase shall include preparation, delivery and review of schematic design, air permits, proof of interconnection request to the Customer's utility company, complete design, and engineering. The Installation Phase shall begin with the Effective Date and include the procurement, fabrication, installation, and commissioning of the CHP System set forth in the approved EA and continue through the preparation of the PIR. The Performance Phase shall begin with the Commencement Date and continue through the completion of the M&V activities required by the approved M&V plan.

§2.2. Project Term. The term of this Agreement shall begin on the Effective Date and shall run continuously for two (2) years after the Commencement Date, as provided for in the approved M&V plan, unless extended or terminated pursuant to this Agreement.

§2.3. Project Extensions. The Project Term, defined in Section 2.2 hereof, may be extended for good cause by NYSERDA. As used herein, "good cause" means an unanticipated circumstance or event which, despite the due diligence of the Applicant, renders compliance with such term impracticable. A request for an extension must be submitted in writing to NYSERDA no less than thirty (30) calendar days prior to the expiration of this Agreement. Any such extension shall be in writing.

§2.4. Manner of Performance. The Applicant shall perform its responsibilities under this Agreement in an efficient and expeditious manner and in accordance with all of the terms and provisions of this Agreement. The Applicant shall perform all responsibilities in accordance with the current professional standards and with the diligence and skill expected for the performance of work of the type described in this Agreement. The Applicant shall furnish such personnel and shall procure such materials, machinery, supplies, tools, equipment and other items as may reasonably be necessary or appropriate to perform its responsibilities in accordance with this Agreement.

ARTICLE 3: PROJECT PAYMENTS

§3.1. Payments to the Applicant. Milestone payments as defined in the CHP Systems Manual are contemplated to be made to the Applicant under this Agreement. Payments will be requested by the Applicant by submitting an invoice to NYSERDA. NYSERDA shall make payments to the Applicant in accordance with and subject to its Prompt Payment Policy Statement attached hereto as Exhibit D. Payments shall be made in accordance with the payment process set forth below:

Progress Payment Invoices. NYSERDA may make two (2) progress payments totaling up to thirty percent (30%) of the Total Contracted Project Base Incentive.

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1. The first progress payment will be made upon receipt of an invoice, which may be submitted at the option of the Applicant, upon proof of purchase and delivery of the CHP System and ancillary equipment (i.e. bill of lading).

The first progress payment shall not exceed fifteen percent (15%) of the Total Contracted Project Base Incentive.

2. The second progress payment will be made upon receipt of an invoice, which may be submitted at the option of the Applicant, following submission to NYSERDA of a copy of the Applicant's receipt of the interconnection letter from their applicable utility.

The second progress payment shall not exceed fifteen percent (15%) of the Total Contracted Project Base Incentive.

Progress Payments may not exceed fifty percent (50%) of the Project costs incurred.

Project Installation Payment Invoice. NYSERDA agrees to make a payment of up to forty percent (40%) of the Total Contracted Project Base Incentive, less any amount paid on a Progress Payment Invoice, if the Project, as installed, is substantially the same as the Project in the NYSERDA-approved EA and all requirements of the program have been met, including all permit approvals and interconnection approval from the Customer's utility company. This payment will be based on the Energy Savings estimates in the PIR. This invoice is to be submitted following NYSERDA's approval of the PIR and when the Applicant requests to begin the first years M&V period. The Applicant has up to three (3) months from the time of project installation to begin the M&V period.

- If the Project applied for and is serving Critical Infrastructure, the 10% bonus incentive will be released.
- If the Project applied for and is operating in a Targeted Zone, the 10% bonus incentive will be released.

Performance Invoices. NYSERDA agrees to make two (2) performance payments based on verified Energy Savings following the procedures and schedule of the approved M&V Plan. The maximum allowable payment amount for the first performance invoice is up to thirty percent (30%) of the Total Contracted Project Base Incentive. The maximum allowable payment amount for the second performance invoice is up to thirty percent (30%) of the Total Contracted Project Base Incentive. The performance payment may be reduced if the installed Project fails to meet the CHP Performance Program requirements as outlined in the CHP Systems Manual or achieve the Energy Savings agreed to in Exhibit A.

- If applicable, the superior performance bonus incentive will be paid at the completion of M&V Year 1 and M&V Year 2.
 - Each year is capped at 5%. The sum of the first year and second year

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Superior Performance Bonus Incentive must not exceed 10% of the Base Incentive

Applicant Refund of Overpayments. The Applicant shall repay, within thirty (30) calendar days of notification by NYSERDA, any overpayments made by NYSERDA for progress and installation payments based upon estimated Energy Saving that are not achieved, as provided herein.

Invoice Acceptance. No invoices will be accepted more than ninety (90) days after the end of the Project Term.

§3.2. Maximum Payment. The Total Contracted Project Incentive for a Project shall not exceed \$XXXXXXX

ARTICLE 4: DESIGN PHASE

§4.1. EA Requirements. The EA shall be accomplished in accordance with the requirements outlined in the CHP Performance Program Systems Manual. The EA shall be submitted as part of the application.

§4.2. Schematic Design Requirements. The Schematic Design shall be accomplished in accordance with the requirements outlined in the CHP Performance Program Systems Manual.

§4.3. Schematic Design Submission. The Applicant shall deliver to NYSERDA Schematic Design documents within ninety (90) days of receipt of the Agreement. Unless the deadline to submit the Schematic Design is extended in writing by the NYSERDA Project Manager, failure to submit the Schematic Design within the specified time frame may result in the termination of the Agreement. The Schematic Design shall include equipment specifications, preliminary plan drawings, installation details and permitting and inspection information as detailed in the CHP Performance Program Systems Manual.

§4.4. Schematic Design Acceptance. NYSERDA, in accordance with the CHP Performance Program Systems Manual, will review the Schematic Design and either approve the Schematic Design as submitted, request clarification or additional information, or reject it. An Applicant will have up to thirty (30) days to respond to an initial request for clarification or additional information during the Schematic Design review. If the clarification or additional information is not provided, NYSERDA may elect to declare the Applicant in default. If the additional information is insufficient, the Applicant is allowed two (2) subsequent requests for such information. An Applicant will have up to ten (10) days to respond to each subsequent request for clarification or additional information. If all necessary information is not received by NYSERDA following the third and final request for information, NYSERDA may elect to declare the Applicant in default under this Agreement.

§4.5. Construction Documents Requirements. The Construction Documents shall consist of the final design drawings and specifications. This shall include the final M&V plan. Deviations and concept changes from the Schematic Design shall be highlighted.

§4.6. Construction Document Submission. The Applicant shall deliver to NYSERDA Construction Documents within sixty (60) days of NYSERDA's approval of the Schematic Design. Unless the deadline to submit the Construction Documents is extended in writing by the NYSERDA Project Manager, failure to submit the Construction Documents within the specified time frame may result in the termination of the Agreement.

§4.7. Construction Document Acceptance. NYSERDA, in accordance with the CHP Systems Manual, will review the Construction Documents and either approve the Construction Documents as submitted or request clarification or additional information, or reject it. An Applicant will have up to thirty (30) days to respond to an initial request for clarification or additional information during the Schematic Design review. If the clarification or additional information is not provided, NYSERDA may elect to declare the Applicant in default. If the additional information is insufficient, the Applicant is allowed two (2) subsequent requests for such information. An Applicant will have up to ten (10) days to respond to each subsequent request for clarification or additional information. If all necessary information is not received by NYSERDA following the third and final request for information, NYSERDA may elect to declare the Applicant in default under this Agreement.

§4.8. Measurement and Verification Plan. For CHP Systems, NYSERDA, at no cost to the Applicant, will perform the required M&V. The Applicant, however, will be required to purchase and install the specified sensors and meters. NYSERDA's contractor will work cooperatively with the Applicant to develop an M&V Plan. The Applicant will provide a phone line, internet access or other means of communication acceptable to the NYSERDA contractor to be used for remote data collection. The Applicant shall provide access, as needed, to the NYSERDA contractor to allow the NYSERDA contractor to perform its M&V activities. The NYSERDA contractor shall provide 24 hours notice to the Applicant of all site visits. Should the Applicant fail to provide such access, NYSERDA may elect to declare the Applicant in default under this Agreement.

ARTICLE 5: INSTALLATION PHASE

§5.1. Installation Phase Requirements. The Installation Phase, including the procurement and installation of the CHP System, shall be accomplished in accordance with the requirements outlined in the approved EA and the CHP Performance Program Systems Manual.

§5.2. Term. The Installation Phase shall be deemed to have commenced upon the Effective Date of this Agreement and shall terminate upon NYSERDA's approval of the PIR.

§5.3. Permits. It is the responsibility of the Applicant to acquire and maintain, at its own cost, any and all permits, licenses, easements, waivers and permissions of every nature necessary to perform the Project.

§5.4. PIR Requirements. The Applicant shall deliver to NYSERDA a PIR within twelve (12) months from the date of NYSERDA's approval of the Schematic Design. Failure to submit the PIR within the specified time frame shall be considered a default under this Agreement.

In the PIR, the Applicant will provide documentation that verifies that the specified CHP System has been properly installed, is functioning properly, and with proper maintenance and operation has the potential to generate the Energy Savings documented in Exhibit A.

As described more fully in the CHP Performance Program Systems Manual, the PIR shall include the results of the Commissioning process and performance tests verifying that the installed CHP System will operate as designed. CHP System designs shall conform to all applicable building, energy, and equipment efficiency standards. The tests shall be conducted in accordance with written procedures set forth in the M&V Plan.

§5.5. PIR Acceptance. NYSERDA, in accordance with the time frames set forth in the CHP Performance Program Systems Manual, will review the PIR, inspect the CHP System and either approve the PIR as submitted, approve it with minor revisions, or reject it. If the PIR is rejected, the Applicant has sixty (60) calendar days from the date of rejection to provide necessary information and resolve all outstanding issues with NYSERDA.

In any case, acceptance of the PIR shall not be unreasonably withheld. If NYSERDA is unable to accept the PIR because of the Applicant's failure to perform identified corrective action, such failure shall be considered a default under this Agreement.

ARTICLE 6: PERFORMANCE PHASE

§6.1. Performance Phase Requirements. As a condition of receiving incentive payments under this Agreement, the Applicant is responsible for cooperating with NYSERDA in the implementation of the M&V Plan. In addition, the Applicant shall be responsible for providing the sensors and meters specified in the M&V Plan. All M&V shall be conducted in accordance with the approved M&V Plan.

§6.2. Term. The Performance Phase shall commence upon NYSERDA's approval of the PIR and the Applicant's request to begin M&V, and shall continue for two (2) full years from that date.

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§6.3. Prior Notice. NYSERDA or its Contractor shall be responsible for M&V and may choose to visit a Project site to verify that the information provided in the M&V report is accurate with regard to project equipment, site conditions, and monitoring configurations. These inspections may occur at any time after Project installation, both prior to and after the preparation of an M&V report by NYSERDA. Should NYSERDA decide to inspect the Project, NYSERDA, or its Contractor may or may not contact the Applicant to schedule the inspection; an inspection may occur without advance notice given to the Applicant. If the M&V activities are found to be different from those represented in either the M&V Plan or the M&V report, NYSERDA may refuse any further incentive payments. If NYSERDA deems an inspection necessary, an M&V report that is under review will not be approved until the inspection has been completed.

ARTICLE 7: REQUIRED CUSTOMER-CONTRACTOR AGREEMENTS

INTENTIONALLY LEFT BLANK.

ARTICLE 8: FORCE MAJEURE

§8.1. Neither party hereto shall be liable for any failure or delay in the performance of its respective obligations hereunder if and to the extent that such delay or failure is due to a cause or circumstance beyond the reasonable control of such party, including, without limitation, acts of God or the public enemy, expropriation or confiscation of land or facilities, compliance with any law, order or request of any Federal, State, municipal or local governmental authority, acts of war, rebellion or sabotage or damage resulting therefrom, fires, floods, storms, explosions, accidents, riots, strikes, or the delay or failure to perform by any subcontractor by reason of any cause or circumstance beyond the reasonable control of such subcontractor.

ARTICLE 9: TERMINATION

§9.1. This Agreement shall remain in effect for the term defined in Section 2.2, unless there is an event of default and the Agreement is terminated in accordance with this Article.

Events of default include either Party's breach of any provision of this Agreement, including provisions incorporated by reference, and including, but not limited to, the following:

- a. failure of the Applicant to perform its responsibilities in a timely manner, including, but not limited to, failure to provide the required submittals, including responses to requests for clarification or additional information, or failure to complete the required inspections within the time limits and manner set forth in the CHP Performance Program Systems Manual;
- b. failure of the Applicant to provide NYSERDA or its contractors sufficient access to the Customer's facilities for inspection and/or observation of the Applicant's field M&V activities;

- c. failure of the Applicant to cure any deficiency in a material term or cure any material breach of this Agreement within thirty (30) calendar days after written notice;
- d. failure of the Applicant to maintain necessary permits, licenses or insurance required under this Agreement;
- e. assignment or subcontracting of all or part of the Applicant's obligations required under this Agreement without NYSERDA's prior written permission, except the Applicant shall not be required to obtain NYSERDA approval to subcontract all or part of the work;
- f. submission by the Applicant of false, misleading or incorrect information; and
- g. failure by NYSERDA to make payments due pursuant to the terms of this Agreement to the Applicant within the time limits set forth in this Agreement.

§9.2. Once an event of default occurs, and at any time thereafter so long as the default continues, the non-defaulting Party may, by written notice to the defaulting Party, specify the nature of such default, and declare this Agreement to be in default. The defaulting Party must remedy the default within the time specified in the written notice of default, or thirty (30) calendar days from the date such written notice was given if no time is specified, or within any further period to which the parties may agree. In no event, however, will the defaulting Party be required to remedy a default in less than thirty (30) calendar days from the date the written notice of default was given.

§9.3. If the defaulting party fails to cure its default within the appropriate time period, the non-defaulting party may terminate this Agreement at any time thereafter and, without a waiver of any other remedies which exist in law or equity, exercise at its election, any other rights or remedies it may have under this Agreement, at law or in equity, or institute other proceedings including but not limited to bringing an action or actions from time to time for specific performance, for the recovery of amounts due and unpaid, and for damages.

ARTICLE 10: INDEMNIFICATION

§10.1. The Applicant shall protect, indemnify, and hold harmless NYSERDA and the State of New York from and against all liabilities, losses, claims, damages, judgments, penalties, causes of action, costs and expenses (including, without limitation, attorneys' fees and expenses) imposed upon or incurred by or asserted against NYSERDA or the State of New York resulting from, arising out of or relating to the performance of this Agreement. The Applicant agrees that such obligations under this Article shall survive any expiration or termination of this Agreement and shall not be limited by any insurance coverage required under this Agreement.

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ARTICLE 11: INSURANCE.

§11.1. Maintenance of Insurance; Policy Provisions. The Applicant, at no additional cost to NYSERDA, shall maintain or cause to be maintained throughout the term of this Agreement, insurance of the type and in the amounts specified in the Section hereof entitled Type of Insurance. All such insurance shall be evidenced by one (1) or more insurance policies, each of which shall:

- a. name or be endorsed to cover NYSERDA and the State of New York as additional insureds;
- b. provide that such policy may not be canceled or modified until at least thirty (30) calendar days after receipt by NYSERDA of written notice thereof; and
- c. be reasonably satisfactory to NYSERDA in all other respects.

§11.2. Type of Insurance. (a) Commercial general liability insurance for bodily injury liability, including death, and property damage liability, incurred in connection with the performance of this Agreement, with minimum limits of \$1,000,000 in respect of claims arising out of personal injury or sickness or death of any one (1) person, \$1,000,000 in respect of claims arising out of personal injury, sickness or death in any one (1) accident or disaster, and \$1,000,000 in respect of claims arising out of property damage in any one (1) accident or disaster; and

(b) Workers Compensation, Employers Liability, and Disability Benefits as required by New York State.

§11.3. Delivery of Policies; Insurance Certificates. Prior to commencing the Work, the Applicant shall deliver to NYSERDA certificates of insurance issued by the insurers, evidencing the insurance required by this Article. In the event any policy furnished or carried pursuant to this Article will expire on a date prior to the termination date established under Article 2 hereof, the Applicant, not less than thirty (30) calendar days prior to such expiration date, shall deliver to NYSERDA certificates of insurance evidencing the renewal of such policies, and the Applicant shall promptly pay all premiums thereon due. In the event of threatened legal action, claims, encumbrances, or liabilities that may affect NYSERDA hereunder, or if deemed necessary by NYSERDA due to events rendering a review necessary, upon request the Applicant shall deliver to NYSERDA a certified copy of each policy.

ARTICLE 12: WARRANTIES AND GUARANTEES

§12.1. Each Party warrants and guarantees to the other that:

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- a. it has all requisite power, authority, licenses, permits and franchises, corporate or otherwise, to execute and deliver this Agreement and perform its obligations hereunder;
- b. its execution, delivery and performance of this Agreement have been duly authorized by, or is in accordance with, its organizing instrument, and this Agreement has been duly executed and delivered for it by the signatories authorized, and it constitutes its legal, valid and binding obligation;
- c. its execution, delivery and performance of this Agreement shall not result in a breach or violation of, or constitute a default under, any agreement, lease, or instrument to which it is a party or by which it or its properties may be bound or affected; and
- d. it has not received any notice, nor to the best of its knowledge is there pending or threatened any notice of any violation of any applicable laws, ordinances, regulations, rules, decrees, awards, permits or orders which would materially and adversely affect its ability to perform hereunder.

§12.2. The Applicant also warrants and guarantees that:

- a. it is financially and technically qualified to perform the Project;
- b. it is familiar with and will comply with all general and special federal, State, municipal and local laws, ordinances and regulations, if any, that may in any way affect the performance of this Agreement;
- c. the design, supervision and workmanship furnished with respect to performance of the Project shall be in accordance with sound and currently accepted engineering practices;
- d. neither the Applicant nor any of its employees, agents, representatives or servants has actual knowledge of any patent, copyright or trademark issued under the laws of the United States or any other matter which could constitute a basis for any claim that the performance of the Project or any part thereof infringes any patent, copyright, or trademark or otherwise interferes with any other right of any individual, corporation, association or partnership, organization, business or a government or political subdivision thereof, or any governmental agency or instrumentality;
- e. it has no actual knowledge that there are existing undisclosed or threatened legal actions, claims, or encumbrances, or liabilities that may adversely affect the Project or NYSERDA's rights hereunder;
- f. it has no actual knowledge that any information or document or statement furnished by the Applicant in connection with this Agreement contains any untrue statement of a material fact or

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omits to state a material fact necessary to make the statement not misleading, and that all facts have been disclosed that would materially adversely affect the Project;

g. it has no, and shall not obtain during the course of this Agreement any, interest, financial or otherwise, direct or indirect, nor is it engaged in any business or transaction or professional activity, nor has it incurred any obligation of any nature, which is in substantial conflict with the rendering of services under this Agreement; and

h. it shall exercise reasonable care to achieve commercial standards of fitness for the Customer's use of the equipment that is installed in connection with the Project.

ARTICLE 13: COMPLIANCE WITH CERTAIN LAWS

§13.1. Governing Law. This Agreement shall be interpreted according to the laws of the State of New York. The Applicant, its subcontractors and consultants will comply with all laws, rules, orders, regulations and requirements of federal, state and municipal governments applicable thereto, including provisions set forth in Exhibit C, "Standard Terms and Conditions for All NYSERDA Agreements."

§13.2. All Legal Provisions Deemed Included. It is the intent and understanding of the Applicant and NYSERDA that each and every provision of law required by the laws of the State of New York to be contained in this Agreement shall be contained herein, and if, through mistake, oversight or otherwise, any such provision is not contained herein, or is not contained herein in correct form, this Agreement shall, upon the application of either NYSERDA or the Applicant, promptly be amended so as to comply strictly with the laws of the State of New York with respect to the inclusion in this Agreement of all such provisions.

§13.3. Other Legal Requirements. The references to particular laws of the State of New York in this Article, and elsewhere in this Agreement are not intended to be exclusive and nothing contained in this Article and the Agreement shall be deemed to modify the obligations of the Applicant to comply with all legal requirements.

§13.4. Equipment Requirements. All Equipment required for the CHP System described in the EA shall be consistent with the New York State Uniform Fire Prevention and Building Code, or the applicable local, State or Federal codes.

§13.5. CHP System Efficiency. The annual Fuel Conversion Efficiency of the CHP System, as determined by the monitoring contractor, must meet or exceed sixty percent (60%). Failure to comply will result in reduction of the incentive paid by NYSERDA as specified in the CHP Performance Program Systems Manual.

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§13.6. CHP Clean DG. The CHP System must meet the definition of a “clean DG” system as stated in the New York State Public Service Commission’s Order (Order) on Demand Management Action Plan (Case 04-E-0572), effective March 16, 2006.

§13.7. State Environmental Quality Review Act (SEQRA). NYSERDA is subject to the provisions of SEQRA, implementing regulations of the New York State Department of Environmental Conservation, and implementing regulations of NYSERDA. Funding will not be released for a Project that has not complied with SEQRA.

Activities may qualify as Type I, Type II, or unlisted actions. A Type I activity is likely to have a significant effect on the environment and requires an environmental impact statement (EIS); a Type II action has been determined not to have a significant impact on the environment; an unlisted action must be reviewed to determine if an EIS is appropriate.

CHP Systems in the CHP Performance Program are generally eligible to be treated as Type II actions. NYSERDA will require the Applicant to provide an Environmental Assessment Form (EAF) with the EA for any Unlisted action included in the Project.

ARTICLE 14: PUBLICITY

§14.1. The Applicant shall collaborate with NYSERDA's Director of Communications to prepare any press release and to plan for any news conference concerning the Project. In addition, the Applicant shall notify NYSERDA's Director of Communications regarding any media interview in which the Project is referred to or discussed.

§14.2. It is recognized that during the course of the Project under this Agreement, the Applicant or its employees may from time to time desire to publish information regarding scientific or technical developments made or conceived in the course of or under this Agreement. In any such information, the Applicant shall credit NYSERDA’s funding participation in the Project, and shall state that "NYSERDA has not reviewed the information contained herein, and the opinions expressed in this report do not necessarily reflect those of NYSERDA or the State of New York." Notwithstanding anything to the contrary contained herein, the Applicant shall have the right to use and freely disseminate Project results for educational purposes , if applicable, consistent with the Applicant’s policies.

§14.3. Commercial promotional materials or advertisements produced by the Applicant shall credit NYSERDA as stated above, and shall be submitted to NYSERDA for review and recommendations to improve their effectiveness prior to use. The wording of such credit can be approved in advance by NYSERDA, and, after initial approval, such credit may be used in subsequent promotional materials or advertisements without additional approvals for the credit, provided, however, that all such promotional materials or advertisements shall be submitted to NYSERDA prior to use for review, as stated above. Such approvals shall not be unreasonably

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withheld, and, in the event that notice of approval or disapproval is not received by the Applicant within thirty days after receipt of request for approval, the promotional materials or advertisement shall be considered approved. In the event that NYSERDA requires additional time for considering approval, NYSERDA shall notify the Applicant within thirty days of receipt of the request for approval that additional time is required and shall specify the additional amount of time necessary up to 180 days. If NYSERDA and the Applicant do not agree on the wording of such credit in connection with such materials, the Applicant may use such materials, but agrees not to include such credit.

ARTICLE 15: MISCELLANEOUS

§15.1. Entire Agreement; Amendment. This Agreement embodies the entire agreement and understanding between NYSERDA and the Applicant and supersedes all prior agreements and understandings relating to the subject matter hereof. Except as otherwise expressly provided for herein, this Agreement may be changed, waived, discharged or terminated only by an instrument in writing, signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

§15.2. Record Retention. The Applicant and subcontractors shall keep, maintain, and preserve at its principal office throughout the term of the Agreement and for a period of three (3) years after the expiration or early termination of this Agreement, accurate records of the Project work which is performed hereunder. NYSERDA or its designated representative shall at reasonable times have access to inspect such records.

§15.3. NYSERDA'S Right to Inspect. NYSERDA, and its designated representatives, may observe and inspect all Project work in any of the Customer's facilities.

§15.4. No Waiver. The failure of either Party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver nor deprive that Party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement.

§15.5. Rights and Remedies. No right or remedy conferred upon or reserved to the Parties by this Agreement excludes any other rights or remedies provided by law or equity nor restricts the Parties' rights to exercise any other right or remedy.

§15.6. Disputes. Where any matters related to this Agreement are in dispute, the SPC Program Manager and the Applicant contact person, or their designated representatives shall promptly but in any case, within twenty (20) calendar days of written notice by either Party to the other, meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary to exchange information and attempt in good faith to resolve the dispute.

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§15.7. Assignment. The assignment, transfer, conveyance, or other disposal of this Agreement or any of the Applicant's rights, obligations, interests or responsibilities hereunder, in whole or in part, without the express consent in writing of NYSERDA shall be void and of no effect as to NYSERDA. An assignment of payments due to the Applicant under this Agreement for the purpose of the Applicant securing financing is subject to this Section 15.7, and NYSERDA's consent thereto will not be unreasonably withheld provided the Applicant remains responsible for fulfilling its obligations under this Agreement.

§15.8. Notices. (a) All notices, requests, consents, approvals and other communications which may or are required to be given by either Party to the other under this Agreement shall be in writing and shall be transmitted either:

- (i) via certified or registered United States mail, return receipt requested;
- (ii) by facsimile transmission;
- (iii) by personal delivery;
- (iv) by expedited delivery service; or
- (v) by e-mail, return receipt requested.

Such notices shall be addressed as follows, or to such different addresses as the Parties may from time-to-time designate as set forth in paragraph (c) below:

NYSERDA

Name: Cheryl L. Earley
Title: Director of Contract Management
Address: 17 Columbia Circle, Albany, New York 12203
Facsimile Number: 518-862-1090
E-Mail Address: cle@nyserda.ny.gov
Personal Delivery: Reception desk at the above address

XXXXXXXXXX

Name:
Address:
Facsimile Number:
E-Mail Address:

(b) Any such notice shall be deemed to have been given either at the time of personal delivery or, in the case of expedited delivery service or certified or registered United States mail, as of the date of first attempted delivery at the address and in the manner provided herein, or in the case of facsimile transmission or email, upon receipt.

(c) The Parties may, from time to time, specify any new or different address in the United States as their address for purpose of receiving notice under this Agreement by giving fifteen (15) days written notice to the other party sent in accordance herewith. The Parties agree to mutually

AGREEMENT FOR CHP SYSTEMS

designate individuals as their respective representatives for the purposes of receiving notices under this Agreement. Additional individuals may be designated in writing by the Parties for purposes of implementation and administration/billing, resolving issues and problems and/or for dispute resolution.

§15.9. Independent Contractor. (a) The status of the Applicant under this Agreement shall be that of an independent contractor and not that of an agent, and in accordance with such status, the Applicant, subcontractors, and their respective officers, agents, employees, representatives and servants shall at all times during the term of this Agreement conduct themselves in a manner consistent with such status and by reason of this Agreement shall neither hold themselves out as, nor claim to be acting in the capacity of, officers, employees, agents, representatives or servants of NYSERDA nor make any claim, demand or application for any right or privilege applicable to NYSERDA, including, without limitation, vicarious liability, professional liability coverage or indemnification, rights or privileges derived from workers' compensation coverage, unemployment insurance benefits, social security coverage and retirement membership or credit. . It is understood and agreed that the personnel furnished by Applicant to perform the Work shall be Applicants's employee(s) or agent(s), and under no circumstances are such employee(s) to be considered NYSERDA's employee(s) or agent(s), and shall remain the employees of Applicant, except to the extent required by section 414(n) of the Internal Revenue Code.

(b) Applicant expressly acknowledges NYSERDA's need to be advised, on an immediate basis, of the existence of any claim or event that might result in a claim or claims against NYSERDA, Applicant and/or Applicant's personnel by virtue of any act or omission on the part of NYSERDA or its employees. Accordingly, Applicant expressly covenants and agrees to notify NYSERDA of any such claim or event, including but not limited to, requests for accommodation and allegations of harassment and/or discrimination, immediately upon Applicant's discovery of the same, and to fully and honestly cooperate with NYSERDA in its efforts to investigate and/or address such claims or events, including but not limited to, complying with any reasonable request by NYSERDA for disclosure of information concerning such claim or event even in the event that this Agreement should terminate for any reason.

§15.10. Audit. NYSERDA shall have the right from time to time and at all reasonable times during the term of this Agreement and for the maintenance period set forth in Section 15.2 hereof to inspect and audit Project accounts pertaining to the financial obligation of the Customer to the Applicant and records pertaining to the Project engineering, energy savings calculations, and energy savings measurement and verification where they are then being kept, maintained and preserved pursuant to Section 15.2 hereof. Any payment made under this Agreement shall be subject to retroactive reduction for amounts included therein which are found by NYSERDA on the basis of any audit of the Applicant by an agency of the United States, State of New York or NYSERDA not to constitute an allowable charge or cost hereunder.

AGREEMENT FOR CHP SYSTEMS

§15.11. Review and Disclaimer. NYSERDA's execution of this Agreement with the Applicant and any NYSERDA review of the design, construction, operation, or maintenance of the Project shall not constitute any representation as to the economic or technical feasibility, operational capability, or reliability of the CHP System. The Applicant shall in no way represent to any third party that NYSERDA's execution of this Agreement or any reviews by NYSERDA, including, but not limited to, NYSERDA's review of the design, construction, operation, or maintenance of the Project is a representation by NYSERDA as to the economic or technical feasibility, operational capability, or reliability of the Energy Efficiency Measures. The Applicant is solely responsible for the economic and technical feasibility, operational capability, and reliability of the CHP System.

§15.12. Requirement to Pay the SBC. The customer site must be paying the SBC at the time of application submittal to NYSERDA. A portion or all of the Total Contracted Project Incentive shall be forfeited if the Customer fails to pay the SBC throughout the term of this Agreement. Specifically, if the Customer fails to pay the SBC for the entire Performance Phase, the Total Contracted Project Incentive shall be reduced by the same proportion as the period of time that the SBC is not paid during the Performance Phase. If the Customer fails to pay the SBC at any time prior to the Performance Phase, all of the Total Contracted Project Incentive shall be forfeited.

AGREEMENT FOR CHP SYSTEMS

IN WITNESS WHEREOF, the Parties hereto do indicate their acceptance of and agreement to the foregoing by causing their duly authorized representatives to execute this Agreement as of the day, month and year first above written.

XXXXXXXXXX

**NEW YORK STATE ENERGY RESEARCH
AND DEVELOPMENT AUTHORITY**

By _____

By _____

Name _____

John B. Rhodes
President and CEO

Title _____

AGREEMENT FOR CHP SYSTEMS

STATE OF)
) SS.:
COUNTY OF)

On this _____ day of _____, 201_ before me personally came _____, to me known, who, by me duly sworn, did depose and say that deponent resides in _____; that deponent is the of _____, the corporation described in and which executed the foregoing instrument; and that (s)he executed the same by the authority of the Board of Directors or By-Laws of said corporation.

Notary Public |

EXHIBIT A
CHP PERFORMANCE PROGRAM AGREEMENT

Total Contracted Peak Demand Reduction and Project Incentive

Contract Number:

Application Name:

Project Name:

Estimated Savings		Installed kW	Total Contracted Base Incentive (\$)		
Annual kWh Generated	Contracted Peak kW Reduction (kW _{spc})	Nameplate	\$0.10/kWh	\$750/kW _{spc}	Total*

Bonus Incentives** (Each Bonus Incentive component capped at 10% of the Total Estimated Base Incentive)			Total Contracted Project Incentive (\$)		
Critical Facility	Targeted Zone	Superior Performance	Base Incentive \$	Bonus Incentive \$	Total***

*The Total Estimated Base Incentive is capped at the lesser of \$2,000,000 or 50% of Total Project Cost.

**Bonus Incentives cannot exceed 30% of the Total Estimated Base Incentive.

***The Total Contracted Project Incentive is capped at the lesser of \$2,600,000 or 50% of Total Project Cost.

EXHIBIT B

See Attachment B – CHP Performance Program Systems Manual

CHP Performance Program System Manual in effect at the time the Application is received by NYSERDA is incorporated herein by reference and made a part hereof as though herein set forth in full.

EXHIBIT C

REVISED 5/12

STANDARD TERMS AND CONDITIONS
FOR ALL NYSERDA AGREEMENTS

(Based on Standard Clauses for New York State Contracts and Tax Law Section 5-a)

The parties to the Agreement agree to be bound by the following clauses which are hereby made a part of the Agreement:

1. NON-DISCRIMINATION REQUIREMENTS. To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, sexual orientation, age, disability, genetic predisposition or carrier status, or marital status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is an Agreement for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this Agreement shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this Agreement. If this is a building service Agreement as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this Agreement and forfeiture of all moneys due hereunder for a second subsequent violation.

2. WAGE AND HOURS PROVISIONS. If this is a public work Agreement covered by Article 8 of the Labor Law or a building service Agreement covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by NYSEDA of any NYSEDA-approved sums due and owing for work done upon the project.

3. NON-COLLUSIVE BIDDING REQUIREMENT. In accordance with Section 2878 of the Public Authorities Law, if this Agreement was awarded based upon the submission of bids, Contractor warrants, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further warrants that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to NYSERDA a non-collusive bidding certification on Contractor's behalf.

4. INTERNATIONAL BOYCOTT PROHIBITION. If this Agreement exceeds \$5,000, the Contractor agrees, as a material condition of the Agreement, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the Federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the Agreement's execution, such Agreement, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify NYSERDA within five (5) business days of such conviction, determination or disposition of appeal. (See and compare Section 220-f of the Labor Law, Section 139-h of the State Finance Law, and 2 NYCRR 105.4).

5. SET-OFF RIGHTS. NYSERDA shall have all of its common law and statutory rights of set-off. These rights shall include, but not be limited to, NYSERDA's option to withhold for the purposes of set-off any moneys due to the Contractor under this Agreement up to any amounts due and owing to NYSERDA with regard to this Agreement, any other Agreement, including any Agreement for a term commencing prior to the term of this Agreement, plus any amounts due and owing to NYSERDA for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto.

6. PROPRIETARY INFORMATION. Notwithstanding any provisions to the contrary in the Agreement, Contractor and NYSERDA acknowledge and agree that all information, in any format, submitted to NYSERDA shall be subject to and treated in accordance with the NYS Freedom of Information Law ("FOIL," Public Officers Law, Article 6). Pursuant to FOIL, NYSERDA is required to make available to the public, upon request, records or portions thereof which it possesses, unless that information is statutorily exempt from disclosure. Therefore, unless the Agreement specifically requires otherwise, Contractor should submit information to NYSERDA in a non-confidential, non-proprietary format. FOIL does provide that NYSERDA may deny access to records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise." [See Public Officers Law, § 87(2)(d)]. Accordingly, if the Agreement specifically requires submission of information in a format Contractor considers a proprietary and/or confidential trade secret, Contractor shall fully identify and plainly label the information "confidential" or "proprietary" at the time of disclosure. By so marking such information, Contractor represents that the information has actual or potential specific commercial or competitive value to the competitors of Contractor. Without limitation, information will not be

considered confidential or proprietary if it is or has been (i) generally known or available from other sources without obligation concerning its confidentiality; (ii) made available by the owner to others without obligation concerning its confidentiality; or (iii) already available to NYSERDA without obligation concerning its confidentiality. In the event of a FOIL request, it is NYSERDA's policy to consider records as marked above pursuant to the trade secret exemption procedure set forth in 21 New York Codes Rules & Regulations § 501.6 and any other applicable law or regulation. However, NYSERDA cannot guarantee the confidentiality of any information submitted. More information on FOIL, and the relevant statutory law and regulations, can be found at the website for the Committee on Open Government (<http://www.dos.state.ny.us/coog/foil2.html>) and NYSERDA's Regulations, Part 501 (<http://www.nyserda.ny.gov/en/About/~media/Files/About/Contact/NYSERDARegulations.ashx>).

7. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION. (a) FEDERAL EMPLOYER IDENTIFICATION NUMBER and/or FEDERAL SOCIAL SECURITY NUMBER. As a condition to NYSERDA's obligation to pay any invoices submitted by Contractor pursuant to this Agreement, Contractor shall provide to NYSERDA its Federal employer identification number or Federal social security number, or both such numbers when the Contractor has both such numbers. Where the Contractor does not have such number or numbers, the Contractor must give the reason or reasons why the payee does not have such number or numbers.

(b) PRIVACY NOTIFICATION. The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by Contractor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law.

8. CONFLICTING TERMS. In the event of a conflict between the terms of the Agreement (including any and all attachments thereto and amendments thereof) and the terms of this Exhibit C, the terms of this Exhibit C shall control.

9. GOVERNING LAW. This Agreement shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

10. NO ARBITRATION. Disputes involving this Agreement, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily required) without the NYSERDA's written consent, but must, instead, be heard in a court of competent jurisdiction of the State of New York.

11. SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law and Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete

upon Contractor's actual receipt of process or upon NYSERDA's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify NYSERDA, in writing, of each and every change of address to which service of process can be made. Service by NYSERDA to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

12. CRIMINAL ACTIVITY. If subsequent to the effectiveness of this Agreement, NYSERDA comes to know of any allegation previously unknown to it that the Contractor or any of its principals is under indictment for a felony, or has been, within five (5) years prior to submission of the Contractor's proposal to NYSERDA, convicted of a felony, under the laws of the United States or Territory of the United States, then NYSERDA may exercise its stop work right under this Agreement. If subsequent to the effectiveness of this Agreement, NYSERDA comes to know of the fact, previously unknown to it, that Contractor or any of its principals is under such indictment or has been so convicted, then NYSERDA may exercise its right to terminate this Agreement. If the Contractor knowingly withheld information about such an indictment or conviction, NYSERDA may declare the Agreement null and void and may seek legal remedies against the Contractor and its principals. The Contractor or its principals may also be subject to penalties for any violation of law which may apply in the particular circumstances. For a Contractor which is an association, partnership, corporation, or other organization, the provisions of this paragraph apply to any such indictment or conviction of the organization itself or any of its officers, partners, or directors or members of any similar governing body, as applicable.

13. PERMITS. It is the responsibility of the Contractor to acquire and maintain, at its own cost, any and all permits, licenses, easements, waivers and permissions of every nature necessary to perform the work.

14. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this Agreement will be in accordance with, but not limited to, the specifications and provisions of State Finance Law Section 165 (Use of Tropical Hardwoods), which prohibits purchase and use of tropical hardwoods, unless specifically exempted by NYSERDA.

15. OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
30 South Pearl St -- 7th Floor
Albany, New York 12245
Telephone: 518-292-5220
Fax: 518-292-5884
<http://www.esd.ny.gov>

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
30 South Pearl St -- 2nd Floor
Albany, New York 12245
Telephone: 518-292-5250
Fax: 518-292-5803
<http://www.empire.state.ny.us>

The Omnibus Procurement Act of 1992 requires that by signing this Agreement, Contractors certify that whenever the total amount is greater than \$1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

16. RECIPROCITY AND SANCTIONS PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 15, 2002, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii. Contact NYS Department of Economic Development for a current list of jurisdictions subject to this provision.

17. COMPLIANCE WITH NEW YORK STATE INFORMATION SECURITY BREACH AND NOTIFICATION ACT. Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law Section 899-aa; State Technology Law Section 208).

18. PROCUREMENT LOBBYING. To the extent this Agreement is a “procurement contract” as defined by State Finance Law Sections 139-j and 139-k, by signing this Agreement the Contractor certifies and affirms that all disclosures made in accordance with State Finance Law Sections 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, NYSERDA may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

19. COMPLIANCE WITH TAX LAW SECTION 5-a. The following provisions apply to Contractors that have entered into agreements in an amount exceeding \$100,000 for the purchase of goods and services:

- a) Before such agreement can take effect, the Contractor must have on file with the New York State Department of Taxation and Finance a Contractor Certification form (ST-220-TD).
- b) Prior to entering into such an agreement, the Contractor is required to provide NYSERDA with a completed Contractor Certification to Covered Agency form (Form ST-220-CA).
- c) Prior to any renewal period (if applicable) under the agreement, the Contractor is required to provide NYSERDA with a completed Form ST-220-CA.

Certifications referenced in paragraphs (b) and (c) above will be maintained by NYSERDA and made a part hereof and incorporated herein by reference.

NYSERDA reserves the right to terminate this agreement in the event it is found that the certification filed by the Contractor in accordance with Tax Law Section 5-a was false when made.

20. IRANIAN ENERGY SECTOR DIVESTMENT. In accordance with Section 2879-c of the Public Authorities Law, by signing this contract, each person and each person signing on behalf of any other party certifies, and in the case of a joint bid or partnership each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each person is not on the list created pursuant to paragraph (b) of subdivision 3 of [section 165-a of the State Finance Law](#) (See www.ogs.ny.gov/about/regs/ida.asp).

EXHIBIT D

NYSERDA PROMPT PAYMENT POLICY STATEMENT

504.1. Purpose and Applicability. (a) The purpose of this Exhibit is to provide a description of Part 504 of NYSERDA's regulations, which consists of NYSERDA's policy for making payment promptly on amounts properly due and owing by NYSERDA under this Agreement. The section numbers used in this document correspond to the section numbers appearing in Part 504 of the regulations.¹

(b) This Exhibit applies generally to payments due and owing by the NYSERDA to the Contractor pursuant to this Agreement. However, this Exhibit does not apply to Payments due and owing when NYSERDA is exercising a Set-Off against all or part of the Payment, or if a State or Federal law, rule or regulation specifically requires otherwise.

504.2. Definitions. Capitalized terms not otherwise defined in this Exhibit shall have the same meaning as set forth earlier in this Agreement. In addition to said terms, the following terms shall have the following meanings, unless the context shall indicate another or different meaning or intent:

(a) "Date of Payment" means the date on which NYSERDA requisitions a check from its statutory fiscal agent, the Department of Taxation and Finance, to make a Payment.

(b) "Designated Payment Office" means the Office of NYSERDA's Controller, located at 17 Columbia Circle, Albany, New York 12203.

(c) "Payment" means payment properly due and owing to Contractor pursuant to Article IV, Exhibit B of this Agreement.

(d) "Prompt Payment" means a Payment within the time periods applicable pursuant to Sections 504.3 through 504.5 of this Exhibit in order for NYSERDA not to be liable for interest pursuant to Section 504.6.

(e) "Payment Due Date" means the date by which the Date of Payment must occur, in accordance with the provisions of Sections 504.3 through 504.5 of this Exhibit, in order for NYSERDA not to be liable for interest pursuant to Section 504.6.

(f) "Proper Invoice" means a written request for Payment that is submitted by a Contractor setting forth the description, price or cost, and quantity of goods, property or services delivered or rendered, in such form, and supported by such other substantiating documentation, as NYSERDA may reasonably require, including but not limited to any requirements set forth in Exhibits A or B to this Agreement; and addressed to NYSERDA's Controller, marked "Attention: Accounts Payable," at the Designated Payment Office.

¹ This is only a summary; the full text of Part 504 can be accessed at:
<http://www.nyserda.ny.gov/en/About/~media/Files/About/Contact/NYSERDARegulations.ashx>

(g)(1) “Receipt of an Invoice” means:

(i) if the Payment is one for which an invoice is required, the later of:

(a) the date on which a Proper Invoice is actually received in the Designated Payment Office during normal business hours; or

(b) the date by which, during normal business hours, NYSERDA has actually received all the purchased goods, property or services covered by a Proper Invoice previously received in the Designated Payment Office.

(ii) if the Agreement provides that a Payment will be made on a specific date or at a predetermined interval, without having to submit a written invoice the 30th calendar day, excluding legal holidays, before the date so specified or predetermined.

(2) For purposes of this subdivision, if the Agreement requires a multifaceted, completed or working system, or delivery of no less than a specified quantity of goods, property or services and only a portion of such systems or less than the required goods, property or services are working, completed or delivered, even though the Contractor has invoiced NYSERDA for the portion working, completed or delivered, NYSERDA will not be in Receipt of an Invoice until the specified minimum amount of the systems, goods, property or services are working, completed or delivered.

(g) “Set-off” means the reduction by NYSERDA of a payment due a Contractor by an amount equal to the amount of an unpaid legally enforceable debt owed by the Contractor to NYSERDA.

504.3. Prompt Payment Schedule. Except as otherwise provided by law or regulation or in Sections 504.4 and 504.5 of this Exhibit, the Date of Payment by NYSERDA of an amount properly due and owing under this Agreement shall be no later than thirty (30) calendar days, excluding legal holidays, after Receipt of a Proper Invoice.

504.4. Payment Procedures.

(a) Unless otherwise specified in this Agreement, a Proper Invoice submitted by the Contractor to the Designated Payment Office shall be required to initiate payment for goods, property or services. As soon as any invoice is received in the Designated Payment Office during normal business hours, such invoice shall be date-stamped. The invoice shall then promptly be reviewed by NYSERDA.

(b) NYSERDA shall notify the Contractor within fifteen (15) calendar days after Receipt of an Invoice of:

(1) any defects in the delivered goods, property or services;

(2) any defects in the invoice; or

(3) suspected improprieties of any kind.

(c) The existence of any defects or suspected improprieties shall prevent the commencement of the time period specified in Section 504.3 until any such defects or improprieties are corrected or otherwise resolved.

(d) If NYSERDA fails to notify a Contractor of a defect or impropriety within the fifteen (15) calendar day period specified in subdivision (b) of this section, the sole effect shall be that the number of days allowed for Payment shall be reduced by the number of days between the 15th day and the day that notification was transmitted to the Contractor. If NYSERDA fails to provide reasonable grounds for its contention that a defect or impropriety exists, the sole effect shall be that the Payment Due Date shall be calculated using the original date of Receipt of an Invoice.

(e) In the absence of any defect or suspected impropriety, or upon satisfactory correction or resolution of a defect or suspected impropriety, NYSERDA shall make Payment, consistent with any such correction or resolution and the provisions of this Exhibit.

504.5. Exceptions and Extension of Payment Due Date. NYSERDA has determined that, notwithstanding the provisions of Sections 504.3 and 504.4 of this Exhibit, any of the following facts or circumstances, which may occur concurrently or consecutively, reasonably justify extension of the Payment Due Date:

(a) If this Agreement provides Payment will be made on a specific date or at a predetermined interval, without having to submit a written invoice, if any documentation, supporting data, performance verification, or notice specifically required by this Agreement or other State or Federal mandate has not been submitted to NYSERDA on a timely basis, then the Payment Due Date shall be extended by the number of calendar days from the date by which all such matter was to be submitted to NYSERDA and the date when NYSERDA has actually received such matter.

(b) If an inspection or testing period, performance verification, audit or other review or documentation independent of the Contractor is specifically required by this Agreement or by other State or Federal mandate, whether to be performed by or on behalf of NYSERDA or another entity, or is specifically permitted by this Agreement or by other State or Federal provision and NYSERDA or other entity with the right to do so elects to have such activity or documentation undertaken, then the Payment Due Date shall be extended by the number of calendar days from the date of Receipt of an Invoice to the date when any such activity or documentation has been completed, NYSERDA has actually received the results of such activity or documentation conducted by another entity, and any deficiencies identified or issues raised as a result of such activity or documentation have been corrected or otherwise resolved.

(c) If an invoice must be examined by a State or Federal agency, or by another party contributing to the funding of the Contract, prior to Payment, then the Payment Due Date shall be extended by the number of calendar days from the date of Receipt of an Invoice to the date

when the State or Federal agency, or other contributing party to the Contract, has completed the inspection, advised NYSERDA of the results of the inspection, and any deficiencies identified or issues raised as a result of such inspection have been corrected or otherwise resolved.

(d) If appropriated funds from which Payment is to be made have not yet been appropriated or, if appropriated, not yet been made available to NYSERDA, then the Payment Due Date shall be extended by the number of calendar days from the date of Receipt of an Invoice to the date when such funds are made available to NYSERDA.

504.6. Interest Eligibility and Computation. If NYSERDA fails to make Prompt Payment, NYSERDA shall pay interest to the Contractor on the Payment when such interest computed as provided herein is equal to or more than ten dollars (\$10.00). Interest shall be computed and accrue at the daily rate in effect on the Date of Payment, as set by the New York State Tax Commission for corporate taxes pursuant to Section 1096(e)(1) of the Tax Law. Interest on such a Payment shall be computed for the period beginning on the day after the Payment Due Date and ending on the Date of Payment.

504.7. Sources of Funds to Pay Interest. Any interest payable by NYSERDA pursuant to Exhibit shall be paid only from the same accounts, funds, or appropriations that are lawfully available to make the related Payment.

504.8. Incorporation of Prompt Payment Policy Statement into Contracts. The provisions of this Exhibit shall apply to all Payments as they become due and owing pursuant to the terms and conditions of this Agreement, notwithstanding that NYSERDA may subsequently amend its Prompt Payment Policy by further rulemaking.

504.9. Notice of Objection. Contractor may object to any action taken by NYSERDA pursuant to this Exhibit that prevents the commencement of the time in which interest will be paid by submitting a written notice of objection to NYSERDA. Such notice shall be signed and dated and concisely and clearly set forth the basis for the objection and be addressed to the Vice President, New York State Energy Research and Development Authority, at the notice address set forth in Exhibit B to this Agreement. The Vice President of NYSERDA, or his or her designee, shall review the objection for purposes of affirming or modifying NYSERDA's action. Within fifteen (15) working days of the receipt of the objection, the Vice President, or his or her designee, shall notify the Contractor either that NYSERDA's action is affirmed or that it is modified or that, due to the complexity of the issue, additional time is needed to conduct the review; provided, however, in no event shall the extended review period exceed thirty (30) working days.

504.10. Judicial Review. Any determination made by NYSERDA pursuant to this Exhibit that prevents the commencement of the time in which interest will be paid is subject to judicial review in a proceeding pursuant to Article 78 of the Civil Practice Law and Rules. Such proceedings shall only be commenced upon completion of the review procedure specified in Section 504.9 of this Exhibit or any other review procedure that may be specified in this Agreement or by other law, rule, or regulation.

504.11. Court Action or Other Legal Processes.

(a) Notwithstanding any other law to the contrary, the liability of NYSERDA to make an interest payment to a Contractor pursuant to this Exhibit shall not extend beyond the date of a notice of intention to file a claim, the date of a notice of a claim, or the date commencing a legal action for the payment of such interest, whichever occurs first.

(b) With respect to the court action or other legal processes referred to in subdivision (a) of this section, any interest obligation incurred by NYSERDA after the date specified therein pursuant to any provision of law other than Public Authorities Law Section 2880 shall be determined as prescribed by such separate provision of law, shall be paid as directed by the court, and shall be paid from any source of funds available for that purpose.