



CHP Program
Program Opportunity Notice (PON) 2568
\$97.8 Million Through December 31, 2019

Applications for installation of CHP systems 3MW and smaller accepted through 3:00 PM ET on December 31, 2019

The combined Heat and Power (CHP) Program provides incentives for the installation of grid-connected CHP systems at customer sites that pay the System Benefits Charge (SBC) on their electric bill.

The CHP Program supports an accelerated procurement process where customers select from a set of pre-engineered CHP modules supplied by approved CHP vendors (the Catalog Approach) or the more traditional design/build procurement process specifically for larger CHP systems where requirements are not adequately met by the Catalog Approach (the Custom Approach).

Under the Catalog Approach, approved CHP vendors act as a single point of responsibility for the entire project and provide a minimum 5-year maintenance/warranty agreement on the CHP system. Under this approach, NYSERDA will only accept applications from, and will only contract with, approved CHP vendors.

Under the Custom Approach, NYSERDA will accept applications from the site owner, the CHP System owner, or any member of the project team that is willing and capable of taking responsibility for the proper design, integration, installation, commissioning and maintenance of the CHP System. NYSERDA will contract only with the applicant. The Custom Approach is available for projects 1MW - 3MW in size.

For studies, NYSERDA provides incentives for in-depth technical and financial site-specific CHP feasibility investigations through NYSERDA's FlexTech Program (<http://www.nyserdera.ny.gov/flextech>).

NOTE: Incentives for CHP Systems with an aggregate generator capacity between 50 kW and 3 MW have declined in 5% increments off the original incentive every 6 months for applications received in full starting September 1, 2016 through September 1, 2018. The objective of this program is to serve as a bridge until the marketplace can flourish in the absence of this subsidy. Therefore, as new sources of "market-based compensation" emerge in the marketplace (such as utility-administered non-wires solutions (NWS) programs <http://jointutilitiesofny.org/utility-specific-pages/nwa-opportunities/>, and specifically CHP opportunities in ConEd BQDM <https://www.coned.com/-/media/files/coned/documents/save-energy-money/rebates-incentives-tax-credits/rebates-incentives-tax-credits-for-commercial-industrial-buildings-customers/commercial-and-industrial-program/combined-heat-and-power-program.pdf?la=en>), the glide path of incentive decline will become steeper. Hence, incentives for CHP Systems with an aggregate generator capacity between 50 kW and 3 MW will further decline in 10% increments off the original incentive for applications received in full starting December 15, 2018, and again on June 15, 2019 and on December 15, 2019. Market actors are strongly encouraged to focus on projects that can maximize available market-based compensation mechanisms to buffer themselves from the impact of future incentive reductions. Initial incentive reductions for CHP systems that are 50 kW or smaller have not been established at this time. However, if NYSERDA observes a sudden increase in project applications for systems 50kW and smaller, NYSERDA may choose to implement incentive reductions for this market segment. For an indication of remaining funds available for incentives, please

refer to the Remaining Funding Balance dashboard on NYSERDA's CHP Program (PON 2568) webpage (https://portal.nyserdera.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt0000000QngyAAC). The CHP Program PON 2568 will close on 12/31/2019 or whenever the budget becomes fully-committed, whichever occurs first. Please consult the dashboard often.

Application Submission: Applications and accompanying required documentation must be submitted via the NYSERDA Portal. If you require assistance with the NYSERDA Portal, please contact CHPsupport@nyserdera.ny.gov. **If you are unable to submit electronically, contact NYSERDA for further instructions.**

CHP Inquiries:

Please direct Program questions to: Paul Vainauskas 518 862-1090 ext. 3554, paul.vainauskas@nyserdera.ny.gov

Please direct Contractual questions to: Venice Forbes, 518 862-1090 ext. 3507, venice.forbes@nyserdera.ny.gov

Introduction

CHP can provide both economic and resiliency benefits to the sites where it is used. CHP is generally more efficient than the traditional means of supplying electricity and heat, so the use of CHP can also have significant greenhouse gas reduction benefits. Since CHP is a reliable form of distributed generation, it can also reduce the load on the electric grid during periods of high demand when the grid is under the most stress. In addition, most CHP systems can provide electric power during grid outages. For these reasons and more, NYSERDA encourages the use of CHP where appropriate. This PON is part of a larger effort to build CHP sales and support infrastructure in New York State, and reduce barriers to its use. The goal is to eventually result in a self-sustaining CHP marketplace.

A hallmark of this solicitation is NYSERDA's emphasis to principally provide consumer protection. In that regard, this program supports only commercially-mature products. This program is not intended to assist inventors with developing or demonstrating prototypes or other pre-commercial activities for bringing a new product to market. NYSERDA addresses the two most important aspects of consumer protection through features of this program as follows:

(1) To ensure that customers acquire durable, quality CHP equipment, furnished by competent solution providers, projects can proceed in an expedited fashion using Catalog-based products consisting of equipment and solution providers that have been vetted by NYSERDA, or projects can proceed using a Custom approach where NYSERDA will vet the proposed equipment and the project team; and

(2) To ensure that a proposed CHP system is properly size-matched to the needs of the customer, projects can proceed in an expedited fashion using NYSERDA's conservative sizing guidelines, or projects can proceed using a customized sizing approach where NYSERDA will vet the rationale of the proposed size.

In order to promote this program by assisting potential CHP users to learn about CHP, determine if CHP is right for them, and assist in navigating the process of installing a CHP system, NYSERDA has contracted with ERS Inc. (ERS) to provide CHP out-reach and technical assistance at no cost to the customer. Please note: sophisticated customers that have, or are expected to be able to acquire, sufficient technical resources will receive limited assistance from ERS. If you are interested in taking advantage of the no-cost services available, contact:

ERS Inc.
Gita Subramony
212-789-8182 x 292

gsubramony@ers-inc.com

If you are interested in installing a CHP system on your site using the Catalog Approach, NYSERDA recommends the following course of action:

LEARN: What is CHP? Am I a good candidate?

1. Read about the basics of CHP.
 - The Northeast Clean Heat and Power Initiative (NECHPI) has a great summary of CHP (<http://www.nechpi.org/chp-basics/>).
 - The US Environmental Protection Agency (EPA) also has information on the basics of CHP technology (<https://www.epa.gov/chp/what-chp>).
 - The US Department of Energy CHP Technical Assistance Partnership (DOE TAP) also has some collected papers on CHP implementation (<https://betterbuildingssolutioncenter.energy.gov/chp/new-york-new-jersey-chp-technical-assistance-partnership>).
2. Determine if your building could be a good candidate for CHP. If your building has a year round need for electricity *and* thermal energy, CHP could be a good energy saving option. The DOE TAP has a quick questionnaire for initial site screening (<https://betterbuildingssolutioncenter.energy.gov/chp/screening-questions-chp-suitability>).
3. If you need more information on CHP technology or its benefits, contact ERS.

PLAN: What are the site-specific considerations for CHP at my building?

1. ERS can help customers through the process of planning a CHP project.
2. Complete a preliminary analysis. This includes determining facility characteristics and outlining energy efficiency and resiliency goals.
 - ERS offers a free preliminary analysis to help estimate CHP feasibility and potential sizing options including financial information.
 - The DOE TAP (<https://betterbuildingssolutioncenter.energy.gov/chp/new-york-new-jersey-chp-technical-assistance-partnership>) can also provide, at no cost, additional information on CHP feasibility.
3. Schedule a visit to your building with ERS to identify potential installation obstacles.
4. If you are seeking a CHP system outside of NYSERDA's sizing guidelines, or if you feel that the Custom Approach better meets your need, a more detailed study will be required. NYSERDA's FlexTech Program (<http://www.nyserda.ny.gov/flextech>) might be able to help.

SHOP: How do I get the information that I need from the vendors?

1. ERS can help customers through the process of issuing a request for vendor bids.
2. Based on the results of either the preliminary analysis or a detailed study, investigate options in the CHP Catalog (see PON 2568 Attachment A – CHP Catalog).
3. Gauge vendor interest.
4. Invite vendors to tour the site so that they can formulate and submit detailed proposals with price estimates and procurement style (e.g., buy, lease, power purchase agreement, etc.).

BUY: How do I know if I am buying the right system for the right price?

1. Receive proposals from multiple vendors for installation and maintenance of the CHP system. ERS can assist with analyzing vendor proposals.
2. Ask follow-up questions regarding proposals and receive proposal revisions if necessary.
3. Select the proposal that best meets your building's needs (the proposal must come from a NYSERDA approved vendor and the system must be in the program catalog to qualify for incentives under the Catalog Approach).
4. The selected vendor prepares and submits the application to NYSERDA.

Upon NYSERDA'S acceptance of your project into the program, assist your vendor with meeting the program's milestones for installation and commissioning.

The following is a summary of required documentation prior to application. Please review the Application Requirements listed within this offering:

- A Feasibility Study, such as a NYSERDA FlexTech CHP study or equivalent, if not within NYSERDA CHP sizing guidelines (see below for requirements)
- 30% design (minimum)
- Financial plan (structure of the deal is defined; the customer knows how the CHP system installation will be paid for)
- An installation schedule showing delivery dates for major components and full operation within 10 months of the NYSERDA approval. (Full operation within 24 months for CHP systems 1MW - 3MW)
- A list of all permits and approvals required.
- Electric interconnect application submitted and a Preliminary Determination and Cost Estimate for the Coordinated Electric System Interconnection Review (CESIR) received from the electric utility.
- Preliminary determination of gas availability from the gas utility, if the CHP System will be fueled by pipeline natural gas.

Program Requirements

The New York State Energy Research and Development Authority (NYSERDA) will provide financial incentives for the installation of grid-connected CHP systems at customer sites that pay the System Benefits Charge (SBC) on their electric bill, or if new construction, will pay the SBC surcharge on the electric bill once interconnected. Incentive funds will be allocated on a project-by-project, first-come-first-served basis in the order of receipt of full and complete applications for projects up to 3MW until December 31, 2019 or until all funds are committed, whichever comes first. The maximum incentive per project, including bonuses, is \$2.5M. Please note that this program will not provide funding for the installation of a CHP System with an aggregate size over 3 MW or for the first 3 MW of a larger system.

CHP System

For the purposes of this program, a "CHP System" is either:

- A pre-engineered grouping of equipment as described in the CHP Catalog (Attachment A) with a unique catalog model number (a Catalog Module);
- One or more Catalog Modules installed within the same area of customer's site regardless of whether or not individual Catalog Modules are serving different electric and/or thermal loads; or
- A custom designed grouping of CHP equipment not already available in the CHP Catalog.

A CHP System may consist of more than one prime mover/generator units, and may also include absorption chillers or other thermally activated devices, such as organic Rankine cycle (ORC) generators.

CHP equipment installed at dispersed locations within a campus or a large building, and serving different electric and/or thermal loads may be considered to be separate CHP Systems at the sole discretion of NYSERDA.

CHP Catalog Approach

NYSERDA maintains a catalog of pre-approved CHP equipment supplied by approved vendors (the CHP Catalog). The CHP Catalog may be updated frequently. Vendors may seek qualification of their CHP equipment through RFI 2568.

Each pre-approved CHP module in the CHP Catalog (Catalog Module) has been evaluated for reasonable component sizing and are comprised of reputable components. In addition, Catalog Modules designated as “pre-qualified” have demonstrated real-world performance through long-term monitoring. The approved vendors in the catalog are required to take full, single point-of-contact responsibility for proper installation and performance, and must provide a warranty/service agreement for a minimum of 5 years for the pre-qualified and conditionally qualified Catalog Modules that they offer.

Customers selecting CHP equipment from the CHP Catalog work with the approved vendor who will submit an application to NYSERDA representing the vendor-customer team. Applications for incentives for CHP Systems using Catalog Modules can only be submitted by the pre-approved Vendors. If the application for the incentive is approved, NYSERDA will contract with the Vendor and all incentive payments will be made to the Vendor.

The United States Department of Energy (DOE) is developing a national web-based eCatalog of DOE-recognized Packaged CHP systems and Solution Providers, expected to be issued in the first quarter of 2019. Once the eCatalog is issued, NYSERDA will begin pointing to NYSERDA-eligible items within the eCatalog. As the DOE eCatalog expands, NYSERDA will eventually phase out the NYSERDA CHP Catalog and use the eCatalog exclusively for Catalog Approach project applications. The DOE eCatalog is expected to emerge from pilot phase on or about November 1, 2018, and at such time NYSERDA highly encourages vendors to apply directly at the following link:
<https://pilot.ecatalog.industrialenergytools.com/>

Custom Approach

Customers with larger electric and thermal loads that have requirements that are not adequately met through the CHP Catalog, or by using variants of the equipment from the pre-approved Vendors, may use an optional Custom Approach. Under this approach, NYSERDA will accept applications from the site owner, the CHP System owner, or any member of the project team that is willing and capable of taking responsibility for the proper design, integration, installation, commissioning and maintenance of the CHP System. NYSERDA will contract only with the applicant. The Custom Approach is available for projects 1MW - 3MW in size.

Applicants using the Custom Approach must meet the same program requirements as applicants using the Catalog Approach. In addition, Custom Approach applicants must demonstrate that the equipment selected is quality equipment from reputable suppliers, that it meets NYSERDA emission requirements of no more than 1.6 lbs-NOx/MWh, and the components are properly matched to each other and to the building.

Black-Start Capability

Black-start capability refers to the ability of a CHP System to operate in a grid-independent mode during grid outages or emergencies, including the ability to re-start from a non-operating (or “black”) condition without grid power. Typically, this involves the use of a synchronous generator (optionally paired with an inverter). Induction generators are not capable of grid-independent operation or black-start. The transition between grid-connected and grid-independent modes of operation may be either manual or automatic.

In order to receive an incentive under this Program, all CHP Systems with an aggregate nameplate rating greater than 50kW (except back pressure steam turbines and ORC devices) must be capable of grid-independent operation during grid outages (black-start capable), and must be installed to provide priority power (to on-site priority loads as determined by the customer) during grid outages.

All Catalog Modules listed in the CHP Catalog (except, in some instances, non-directly-fueled back pressure steam turbines and ORC devices, and some directly-fueled modules 50kW and smaller), are capable of grid-independent operation during grid outages (black-start capable). In order to receive an incentive under this Program, all Catalog Modules that are black-start capable must be installed to provide priority power (to on-site priority loads as determined by the customer) during grid outages.

The CHP Program provides a limited incentive for the use of non-black-start capable, directly-fueled Catalog Modules 50kW and smaller. If these non-black-start capable directly-fueled Catalog Modules are used in a CHP System which is also 50kW and smaller, the incentive will be 2/3 of the incentive for the same sized black-start capable Catalog Module. There will be no incentive for non-black-start capable Catalog Modules when used in CHP Systems larger than 50kW.

Examples:

- A CHP System consisting of two generators at 20kW each, where neither has black-start capability, each generator will be incentivized at the 2/3 rate;
- A CHP System consisting of two generators at 20kW each, where one is black-start capable and the other is not, one will be incentivized at the full rate and the other will be incentivized at the 2/3 rate;
- A CHP System consisting of two generators at 30kW each, where one is black-start capable and the other is not, one will be incentivized at the full rate and the other will receive no incentive.

Conservative CHP System Sizing Guidelines

NYSERDA has developed a set of conservative CHP System sizing guidelines for common building types based on combinations of site characteristics and CHP System sizes that have been shown to perform well. Applications that fall within the sizing guidelines require significantly less engineering analysis and will receive a streamlined review by NYSERDA. The CHP System sizing guidelines can be found in NYSERDA's CHP Catalog. The sizing guidelines may be updated frequently.

Base Incentives

CHP Program incentives are based on the size of the CHP System, capacities of any thermally activated devices (chillers, ORCs) included in the CHP System, and the region of the State where it is installed.

The incentive regions are defined as:

- Upstate – Customer sites located in the area of the State north and west of Westchester County.
- Downstate – Customer sites located in New York City and Westchester County.

The size of a CHP System is determined by the aggregate prime mover/generator nameplate rating.

If the installation of a CHP System involves the installation of multiple Catalog Modules, or if a Custom Approach is being used, the CHP Program incentive will be based on the aggregate size of the CHP System. All projects, in the same region, with the same aggregate size will receive the same incentive. For example: The Upstate incentive for a CHP System totaling 1.2MW will be the same if it is comprised of a single 1.2MW Catalog Module; two 600kW Catalog Modules; three 400kW Catalog Modules; etc., or if it resulted from a custom design.

The CHP Program Incentive Calculator (Attachment C) can be used to estimate the incentive that will be available for a particular CHP System design. Note: The Incentive Calculator is only to be used to obtain an estimate of the CHP Incentive applicable to a proposed project. NYSERDA takes no responsibility for

errors or misinterpretations resulting from its use. NYSERDA will review each application, and in its sole discretion, assign the appropriate incentive.

Bonus Incentives

Target Zones have been established by Consolidated Edison for load service areas of particular interest. Each of these Target Zones has been assigned a target year. If a project site is within a Target Zone based on the Consolidated Edison Target Zone map that is in effect as of the date of application approval by NYSERDA, an additional bonus equal to 10% of the base CHP Program incentive will be paid as part of the final invoice, provided the CHP System is fully operational prior to May of the target year and the total CHP Program incentive does not exceed \$2.5M. Information about Target Zones, and maps showing their locations, can be found at: <https://www.coned.com/en/save-money/using-private-generation-energy-sources> (click on “Local Generation Incentives for...”, followed by “Targeted Zones” below NYSERDA Combined Heat and Power Programs on the subsequent page). The Target Zone maps may be updated frequently. Sites appearing on a map in close proximity to the border of a Target Zone may be subject to confirmation by Consolidated Edison whether the site is in fact within the Target Zone.

The base CHP Program incentive for the full CHP System will be increased by 10% if the CHP system is installed to support critical infrastructure, the electric and thermal outputs of the CHP System benefit the portion of the building designated as such, all Catalog Modules used in the CHP System are black-start capable, and the total CHP Program incentive does not exceed \$2.5M. Determination of eligibility is at NYSERDA’s sole discretion.

Critical infrastructure are those systems and assets so vital to the state that the disruption, incapacitation or destruction of such systems or assets, could jeopardize the health, safety, welfare or security of the state, its residents or its economy, including sites that are designated to be an official “facility of refuge” (as recognized by the American Red Cross or the local Office of Emergency Management).

Examples of critical infrastructure include, but are not limited to:

- Hospitals and nursing homes
- Public safety facilities (police, fire, emergency medical services, emergency management, dispatch center or public safety answering point)
- Communications facilities (broadcasting, telecommunications)
- Utilities (water, wastewater treatment)
- Food and medicine warehousing and distribution centers (supermarkets, pharmacies)

Increased Resiliency – The N+1 Option

This option is available to those sites that wish to increase their CHP capacity to support the normal electric and thermal loads during times when a prime mover is temporarily taken out of service due to normal maintenance or unplanned service. It is also available to those that would like to offset high peak electric loads during short term seasonal demands, or to those that would like to participate in a utility demand response program.

Sites that desire this increased capability and resiliency can install a CHP System with redundant, additional prime mover/generator unit(s) of the same size.

The CHP Program will provide an incentive for one (1) such redundant prime mover units (N+1 Option) as long as:

- The electric and thermal load profiles (or sizing guidelines) justify the base number of prime mover units.
- The CHP System is configured so that, in general, no more than the base number of units are operating under normal conditions.

- The CHP System, as installed in the building and as permitted via utility interconnection agreement, is capable of full operation (all units, base plus redundant, are operating simultaneously) in both grid connected and grid independent (grid outage) modes.
- The aggregated output of all units does not significantly exceed the annual peak electric demand of the meter behind which it is installed.
- The size of no single prime mover significantly exceeds the annual average electric demand (annual kWh/8760) of the electric meter behind which it is installed.
- The intended operating scenario meets a design intent of 60% annualized fuel conversion efficiency or greater, based on HHV (e.g., if the “plus one” generator capacity is operated during a Demand Response call or for a limited number of hours of peak shaving, and during such operation its thermal output is unneeded and therefore discarded, such discard of thermal output shall not be allowed to occur so extensively as to jeopardize meeting the Program’s annualized fuel conversion efficiency goal).

The incentive for a project employing the N+1 Option will be calculated as though a CHP System sized to include a single redundant unit will be installed, regardless of the number of redundant units actually installed. For example, if the design for a CHP System without redundancy includes the installation of two (2) prime mover units, under the N+1 Option, the CHP Program will provide an incentive for a CHP System with one additional unit, in this case, a total of three (3) prime mover units. The customer is free to install additional redundant prime mover units if further resiliency is desired, however, a project seeking to install more than 3 MW of CHP is not eligible for this program (note that non-CHP backup generation -- such as a light-duty generator without heat recovery -- being installed by the project proponent is not eligible for NYSERDA funding via PON 2568 and is not counted toward the PON 2568 eligibility size cap of 3 MW).

The N+1 option is only available for CHP Systems that are capable of full operation during a grid outage (no non-black-start modules). NYSERDA desires to see the entire system operate at full output during the utility coincident peak. Therefore, if such a system is installed, the CHP System owner/site owner should consider participating in a demand response program. When submitting the project application, the feasibility study should take into consideration the added benefits the N+1 Option offers in addition to its cost to construct.

Back Pressure Steam Turbines (BPST)

BPST based CHP Systems are eligible using either the Catalog or Custom Approaches. The incentive will be based on annual average hourly production estimated using an 8760-hour analysis of steam supply flow. BPST systems are not required to be capable of grid-independent operation (i.e., black-start capable), however the incentive for a non-black-start system will be only 2/3 that of a black-start capable system.

Organic Rankine Cycle (ORC) Generators

In general, ORCs can either be a standalone system, using some site specific waste heat, or integrated into a CHP system as a bottoming cycle powered by the thermal output of the system’s other prime mover(s).

The incentive for standalone ORCs is based on the estimated annual average output using an 8760-hour model of the waste heat availability and the ORC performance curve. Just like BPSTs, black-start is not required, but the incentive is 2/3rd for non-black-start ORCs.

The incentive for integrated ORCs is based on the output of the ORC when powered by the thermal output of the CHP System’s prime mover(s) under full load. Black-start is not required, but the incentive is 2/3rd for non-black-start ORCs. However, if the combined system (prime mover and ORC) is black-start

capable, and can provide full electric output during grid outages, then the ORC component will receive the full incentive.

Project Requirements

In order to be approved for an incentive, the site must show that it is subject to the SBC surcharge on its electric bill for the utility meter where the self-generated electricity will be used.

The Applicant must demonstrate that the site's electric and thermal load profiles justify the size of the CHP System such that the annual fuel energy utilization would be expected to exceed 60% based on fuel Higher Heating Value (HHV), or that the proposed CHP System size falls within NYSERDA's conservative CHP System sizing guidelines as specified in the CHP Catalog.

If the site is located within a 500-year flood zone as shown on an approved or proposed FEMA flood zone map, then the CHP System, including all components required for proper operation (pumps, controls, switch gear, etc.) must be located above the expected 500-year flood level. NYSERDA may wave this requirement on a case-by-case bases for sites located within a 500-year flood zone, but outside of a 100-year flood zone if a flood mitigation plan acceptable to NYSERDA is provided.

The CHP System prime mover(s) cannot produce more than 1.6 lbs-NO_x/MWh (pounds of NO_x per megawatt hour of electric production) at any point over the entire operating range of the system.

The CHP System may include equipment fueled by pipeline natural gas, propane or compressed natural gas. CHP Systems where the prime mover is fueled directly by low BTU or adulterated fuels, such as biogas, landfill gas, and gasifier gas are not eligible under this Program. However, on a case by case basis, at NYSERDA's sole discretion, external-combustion-driven CHP Systems such as back pressure steam turbines or ORC devices may be considered eligible when using steam and/or waste heat derived from low BTU or adulterated fuels (the NYSERDA discretion will primarily consider the long-term availability of the steam and/or waste heat source relative to the anticipated lifespan of the CHP equipment).

Recommissioning

NYSERDA intends to dispatch a re-commissioning agent, at NYSERDA's expense, to a selected number of CHP Program sites in general between the 12th and 24th month of CHP System operation to inspect the CHP System, analyze its operation and performance, identify any areas for improvements, and make recommendation as appropriate. The re-commissioning activity may include the temporary (approximately one month) installation of additional monitoring equipment. The vendor, site owner and system owner (if applicable) must agree to provide site access and to cooperate with NYSERDA's re-commissioning agent.

Monitoring

All CHP Systems larger than 50kW installed under this PON must be instrumented so that CHP System performance (including thermal use) can be measured on 15 minute intervals. In addition, NYSERDA intends to sample the performance of small CHP Systems (50kW and less) by accessing any monitoring system included within the CHP System by the Vendor, or by installing monitoring equipment at NYSERDA's expense at select CHP project sites. In any case, the site owner must provide a communications route (phone line or internet connection) so that this performance data can be automatically uploaded to NYSERDA's Distributed Energy Resources (DER) Performance Website (<http://der.nyserdera.ny.gov/>) on a daily basis for at least 3 years, where such performance data will be available to the public.

Project Schedule – CHP Systems less than 1MW.

You should be ready to proceed – Your project schedule should generally follow and preferably be more aggressive than the following milestone schedule (time measured from Start Date in the NYSERDA Agreement, to be set as the date at which NYSERDA transmits the Agreement to the applicant for signature and appearing in Item 4 on Page 1 of the Agreement.):

- Within 120 days: Major CHP system components delivered to site or staging area approved by NYSERDA project manager.
- Within 300 days: CHP system fully installed, operational, and final approval to operate received from the electric utility. This will trigger a post installation inspection by NYSERDA or NYSERDA's agent.
- Within 365 days: CHP system fully commissioned, performance data reliably transmitted to NYSERDA's DER Performance website, and commissioning report accepted by NYSERDA's project manager.

Missing any of these milestones without prior communication and coordination with NYSERDA may result in termination of NYSERDA's agreement and forfeiture of any unpaid incentive payments.

Project Schedule – CHP Systems 1MW - 3MW

You should be ready to proceed – Your project schedule should generally follow and preferably be more aggressive than the following milestone schedule (time measured from Start Date in the NYSERDA Agreement, to be set as the date at which NYSERDA transmits the Agreement to the applicant for signature and appearing in Item 4 on Page 1 of the Agreement.):

- Within 30 days: Purchase order from the CHP System customer (site owner, system owner, etc.) received and accepted by the CHP System Vendor.
- Within 3 months: Proof of major CHP System components being ordered for the project.
- Within 6 months: Final design signoff by customer.
- Within 15 months: Major CHP system components delivered to site or staging area approved by NYSERDA project manager.
- Within 24 months: CHP system fully installed, operational, and final approval to operate received from the electric utility.
- Within 30 months: CHP system fully commissioned, performance data reliably transmitted to NYSERDA's DER Performance website, and commissioning report accepted by NYSERDA's project manager.

Missing any of these milestones without prior written permission may result in termination of NYSERDA's agreement and forfeiture of any unpaid incentive payments.

Incentive Payment Schedule

Incentive payments will be made as follows:

- 33% of the base incentive and Critical Infrastructure bonus (if eligible) when the following have been accepted by NYSERDA's project manager:
 - Copy of the final design.
 - Copy of the building permit.
 - Copy of the preliminary electric utility interconnect approval.
 - Copy of the preliminary gas utility interconnect approval (if required).
 - Proof of application of all other required permits/approvals.
 - A copy of the signed agreement(s) between the site owner and the CHP System vendor, developer, and/or installer that permits the Project to proceed at the site.

- A copy of the signed 5-year warranty/service/maintenance/performance agreement (if following the Catalog Approach).
 - Evidence that major equipment has been delivered to the site or staging area approved by NYSERDA's project manager.
- 33% of the base incentive and Critical Infrastructure bonus (if eligible) when the CHP System is fully installed including interconnections to building systems, and written permission to operate has been obtained from the electric utility and submitted to NYSERDA.
- The remainder of the base incentive and Critical Infrastructure bonus (if eligible) when:
 - The CHP system is fully commissioned and operational.
 - A commissioning report, including a detailed cost breakdown, has been accepted by NYSERDA's project manager,
 - A copy of the final as-built design drawings,
 - A post-installation inspection has been completed by NYSERDA or NYSERDA's agent.
 - A copy of the final electric interconnection agreement has been received by NYSERDA's project manager.
 - A copy of a signed maintenance agreement for the CHP System (if following the Custom Approach)
 - Performance data is being reliably and correctly delivered to NYSERDA's DER Performance website, if monitoring is required.

In addition, if the project is eligible for a Targeted Zone bonus and the CHP System is fully operational prior to May of the target year, the Targeted Zone bonus will be paid at this time.

Application Requirements

NYSERDA discourages premature applications, where the project will not be able to achieve the Program's required timelines; however, NYSERDA will not accept an application for an incentive if major components of the CHP System have already been delivered to the site prior to application submittal unless prior written approval has been received from NYSERDA's Project Manager. All Catalog applications must be submitted by the Vendor.

Required Documentation

- A Feasibility Study or Project Description containing the following (at a minimum):
 - A description of the building including, but not limited to:
 - Location,
 - Usage (multi-family, hotel, industrial, etc.).
 - Size (square footage and a size metric appropriate for the usage such as 300 units in an apartment building, or 100 hotel rooms, etc.).
 - The overall annual electric and thermal consumptions, and peak electric demand.
 - The portions of the building, or the particular processes and systems that will be impacted by the proposed CHP system.
 - A description of the thermal loads and thermal storage.
 - A description of existing systems to be impacted by the installation of the CHP system (boilers, chillers, etc.) and whether or not any of this equipment will be replaced, removed, or decommissioned as part of this project.
 - A description of all existing distributed generation equipment (PV, fuel cell, other CHP, etc.) and all backup generation equipment on the site which is connected to serve the same electric load as the proposed CHP system.
 - Actual monthly electric consumption (for the meter or meters being impacted by the project)
 - Actual or modeled monthly thermal consumption for the relevant thermal load(s) (hot water, space heating, etc. including chilled water loads if a chillier is proposed) covering a 12-month period.

- Actual monthly gas or fuel oil consumption covering a 12-month period (preferably the same period as above).
 - If the CHP System is not sized in accordance with NYSERDA's conservative sizing guidelines, provide a compendium of actual or modeled electric and thermal hourly load profiles for a 24-hour day representative of a weekday and a weekend for each of the four seasons, and an 8760-hour electric and thermal load profile representative of a complete year. When actual data is not available, modeled profiles can be generated using any industry recognized building modeling software that generates an 8760 profile for both electric and thermal loads. For existing buildings, modeled profiles must be calibrated using actual monthly consumption data and actual hourly coincident electric and thermal measurements for a period of not less than 14 continuous days during which no unusual events were happening in the building, such that the measured profiles are representative of typical operation.
 - If the CHP System is not sized in accordance with NYSERDA's conservative sizing guidelines, provide an analysis of the expected operation and performance of the proposed CHP system based on the 8760-hour load profile including monthly (12 consecutive months) and annual performance estimates, including:
 - operating efficiency,
 - fuel input, net electric (kWh) output (i.e. less parasitic electric use),
 - thermal energy generated,
 - thermal energy usable, and
 - run hours.
 - Financial analysis showing estimated costs (capital and operating) and savings, including the impact of transferring to a stand-by tariff for electric delivery (as well as staying on the parent tariff if eligible for such an option), and simple payback both with and without the expected NYSERDA incentive. The stand-by tariff analysis (and the parent tariff analysis, if applicable) must include the impact of scheduled maintenance, and should include a sensitivity analysis for unplanned CHP system downtime.
- Drawings showing:
 - Floor plan showing equipment location, utility interconnection locations, and layout within the building/site. Indicated required maintenance and service clearances.
 - Any required changes to the building's structural components.
 - Mechanical and Plumbing (M&P) design, including makeup air and exhaust chimney - must show thermal monitoring sensor locations and type.
 - Electrical design - must show meter/sensor locations and type.
 - Gas design – must show meter location and type (if not included with the M&P drawings).
 - A Piping and Instrumentation Diagram (P&ID) of the complete CHP System formatted as an 8.5 x 11-inch PDF. If the Application is approved, this will become part of the contract.
- If the CHP System was not selected from the Catalog (projects using the Custom Approach) provide:
 - The make, model, and performance characteristic of all major components.
 - Cut sheets or web URLs for major components.
 - Documentation that the CHP System prime mover(s) will produce no more than 1.6 lbs-NOx/MWh (pounds of NOx per megawatt hour of electric production) at any point over the entire operating range of the prime mover.
 - Process diagram showing design flowrates, temperatures, and locations of meters and sensors, if not already included on the P&ID.
 - Description of the monitoring system and plan consistent with NYSERDA's CHP Monitoring Standard which can be found under RFI 2568.
 - Indicate means of noise attenuation to be employed.
- If rigging is required, provide a description.
- Description of the priority electric load(s).
- A copy of a letter from the electric utility either indicating that further review is not necessary, or providing a cost estimate for the Coordinated Electric System Interconnection Review (CESIR).
- A letter from your gas utility indicating that a preliminary determination shows that sufficient gas is available, if the CHP System will be fueled by pipe-line natural gas.

- A list of all required permits/approvals.
- A detailed project schedule.
- A completed and signed Part 1 of the Short Environmental Assessment Form (SEQRA)
- A copy of an electric utility bill showing payment of the relevant SBC Electric surcharge.
- If the CHP system will be installed to support critical infrastructure, provide documentation to support that claim.
- If the site is a facility of refuge, provide a letter from the American Red Cross or the local emergency management official designating the site as such, and documentation showing that the CHP system will benefit the portion of the building designated as a facility of refuge during a grid outage.
- If the site is within a Target Zone, provide documentation.
- Incentive Application signed by the applicant (i.e. Vendor for the Catalog Approach), the building owner and the CHP system owner, if applicable.
- Completed Disclosure of Prior Findings of Non-Responsibility Form signed by the applicant.

Application Review

All applications will receive a technical review by NYSERDA staff or technical contractors to ensure the following:

- The proposed project meets Program requirements.
- The site energy profile modeling (if required) is reasonable and consistent with procedures and techniques acceptable to NYSERDA.
- The system design and estimated performance is consistent with equipment performance profiles, proposed operating profiles and (if available) the site energy profile models.

In addition, NYSERDA will perform an estimation of the annual reduction in net greenhouse gas emissions resulting from the proposed project. This estimate must show that the proposed project is expected to result in a net decrease in greenhouse gas emissions when compared to either the status quo for existing buildings, or to the expected non-CHP emissions for new construction.

Consistent with NYSERDA's programmatic emphasis on consumer protection, NYSERDA may reject an application based on the results of the technical review, or if in NYSERDA's opinion, the project is not in the best interest of the customer.

Coordination of Public/Utility Funding

If a project to install a CHP System is awarded other public grant funding and/or utility incentive funding, NYSERDA may reduce the incentive amount with the intent that total public/utility funding, including NYSERDA's incentive, will not exceed 100% of the total project cost. The Applicants must inform NYSERDA's project manager of all pending and awarded public grant funding and utility incentives related to the project.

General Conditions

Program Terms & Incentive Levels - NYSERDA reserves the right to change program terms (including rules and incentive amounts) at any time without prior notice. Projects resulting from approved applications will continue to be subject to the program terms in effect at the time of application approval.

If NYSERDA changes a required form template after an applicant has submitted a completed copy to NYSERDA for review, it is in NYSERDA's discretion to require resubmission. NYSERDA reserves the right, for any reason, to stop approving incentive applications at any time without prior notice. NYSERDA reserves the right to extend and/or add funding to the solicitation should other program funding sources become available.

Proprietary Information - Careful consideration should be given before confidential information is submitted to NYSERDA as part of your application. Review should include whether it is critical for evaluating an application, 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://www.nyserda.ny.gov/About/-/media/Files/About/Contact/NYSERDA-Regulations.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 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

State Finance Law sections 139-j and 139-k - NYSERDA is required to comply with State Finance Law sections 139-j and 139-k. These provisions contain new procurement lobbying requirements which can be found at <https://online.ogs.ny.gov/legal/lobbyinglawfaq/default.aspx>. The attached Application calls for a signature certifying that the proposer will comply with State Finance Law sections 139-j and 139-k and the Disclosure of Prior Findings of Non-responsibility form includes a disclosure statement regarding whether the proposer has been found non-responsible under section 139-j of the State Finance Law within the previous four years.

Tax Law Section 5-a - NYSERDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSERDA having a value in excess of \$100,000, to certify to the Department of Taxation and Finance (the "Department") whether the contractor, its affiliates, its subcontractors and the affiliates of its subcontractors have registered with the Department to collect New York State and local sales and compensating use taxes. The Department has

created a form to allow a prospective contractor to readily make such certification. See, ST-220-TD (available at http://www.tax.ny.gov/pdf/current_forms/st/st220td_fill_in.pdf). Prior to contracting with NYSERDA, the prospective contractor must also certify to NYSERDA whether it has filed such certification with the Department. The Department has created a second form that must be completed by a perspective contractor prior to contacting and filed with NYSERDA. See, ST-220-CA (available at https://www.tax.ny.gov/pdf/current_forms/st/st220ca_fill_in.pdf). The Department has developed guidance for contractors which is available at <http://www.tax.ny.gov/pdf/publications/sales/pub223.pdf>.

Limitation - This solicitation does not commit NYSERDA to award a contract, pay any costs incurred in preparing an application, or to procure or contract for services or supplies. NYSERDA reserves the right to accept or reject any or all applications received, 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 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 contractor 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 U.S. Government or the New York State Department of Labor.

Attachments

Attachment A - CHP Catalog

Attachment B - Sample Agreement

Attachment C - Incentive Calculator