Flexible Technical Assistance (FlexTech)
Revised April 2018
Program Opportunity Notice (PON) 1746

Applications accepted on a first-come, first-serve basis dependent on funding availability until December 31, 2019 by 3:00 PM Eastern Time.

The NYSERDA Flexible Technical Assistance (FlexTech) Program provides credible, objective information, and site-specific targeted technical assistance and analysis to help customers make informed clean energy investment decisions that result in the implementation of clean energy technologies. Eligible entities and service providers are encouraged to apply for cost-shared support of site-specific technical assistance. The main components of the Program include:

- Cost-shared energy efficiency technical analyses and strategic energy management assistance to existing facilities.
- Cost-shared feasibility studies for distributed energy resources (DERs), which includes Traditional and Premium Combined Heat and Power (CHP) (section V) and Energy Storage (section VI).

NYSERDA may cost-share the:

- Investigation of an advanced technology or system
- Creation of a long-term energy plan
- Investigation of deep energy savings
- Addressing energy as a component of process efficiency improvements through Engineer-on-Demand (for companies engaged in Lean, 6-Sigma, Total Quality Management (TQM) or other continuous improvement activities)
- Investigation of Clean Heating and Cooling Systems including Air Source Heat Pumps (ASHP), Ground Source Heat Pumps (GSHP), Variable Refrigerant Flow (VRF), and Solar Heating and Cooling
- Investigation of DERs
- Use of simulation or infrastructure management tools to investigate energy saving opportunities in data centers

How to Apply:
Cost-share requests **must** be submitted to https://nyserda.seamlessdocs.com/f/flextech_app along with the following documentation:

- Scope of Work and Budget; see sample template form (Attachment A-1)
- Consolidated Funding Application, CFA, through http://nyworks.ny.gov

Customers, Service Providers, or FlexTech Consultants with Program questions should contact FlexTech@nyserda.ny.gov. All contractual questions should be directed to Nancy Marucci (866-NYSERDA ext. 3335, Nancy.Marucci@nyserda.ny.gov).

*NYSERDA reserves the right to extend and/or adjust funding to this solicitation. Incomplete or unsigned applications will be returned. If changes are made to this solicitation, notification will be posted on NYSERDA's website at www.nyserda.ny.gov.

I. INTRODUCTION

This solicitation is divided into the following components:

- Section II: Eligibility
- Section III: Program Parameters
- Section IV: Program Participation
- Section V: CHP Studies (Traditional and Premium)
- Section VI: Energy Storage Studies
- Section VII: General Conditions
- Section VIII: Attachments

II. ELIGIBILITY

ELIGIBLE STUDY PARTICIPANTS

Eligible participants include New York State commercial and industrial facilities which include but are not limited to: office buildings, retail, colleges and universities, health care facilities, state and local governments, not-for-profit and private institutions, public and private K-12 schools, and data centers that are a New York State electricity customer of a participating utility company who pay into the System Benefits Charge (SBC). Multifamily facilities in New York State that contribute to the SBC on their electric utility bill may be eligible for CHP (Traditional and Premium), Energy Storage, and Clean Heating and Cooling systems studies only.

- Customers select their own service provider to perform the study.
- Customers in need of a service provider may choose from NYSERDA's FlexTech Consultant list comprised of firms under NYSERDA contract. Visit the website at: www.nyserda.ny.gov/FlexTech for the current listing of FlexTech Consultants.
    - Energy consultants, engineering companies, energy service companies (ESCOs) and other eligible firms interested in becoming a NYSERDA FlexTech Consultant should refer to RFP 3628 for additional information.
- All projects must include cost-sharing in the form of matching cash support from the customer. An independent third-party service provider is required for all projects. In-kind contributions of any type are not allowed as matching funds.
    - For most studies, NYSERDA will contribute fifty percent (50%) of the eligible study costs, up to the lesser of either $500,000 or ten percent (10%) of the participating facility's annual energy costs, per year, based on an approved Scope of Work.
    - For most Premium CHP focused studies, NYSERDA will contribute up to seventy five percent (75%) of the eligible study costs, up to the lesser of either $500,000 or ten percent (10%) of the participating facility's annual energy costs, per year, based on an approved Scope of Work.
    - For most energy storage focused feasibility studies, NYSERDA will contribute up to seventy five percent (75%) of the eligible study costs, up to $100,000.

Service Providers and FlexTech Consultants may undergo additional review before being approved to perform certain FlexTech studies. Examples of such studies include but are not limited to CHP, energy storage, energy advisor projects, and industrial and process efficiency analysis.

Farms and on-farm producers, including but not limited to dairies, orchards, greenhouses, vegetables, vineyards, grain dryers, and poultry/egg farms, may be eligible for technical assistance. Please submit the Agriculture Energy Audit Application (Attachment A-2) to apply. This application will be available until a new solicitation for the Agriculture Energy Audit Program is issued by NYSERDA. Please visit www.nyserda.ny.gov/Agriculture for information about no-cost farm energy audits.

STUDY ELIGIBLITY

FlexTech provides customers with the objective and customized site-specific information they need to implement energy projects. FlexTech scopes of work must provide justification for the cost-share request based on site-specific facility descriptions and a clear account of potential solutions that will be investigated. Studies eligible for cost-sharing in this program shall identify and quantify estimated energy savings expected as a result of recommended actions.

The following are **ineligible** for funding:

- Work completed prior to NYSERDA's receipt of a completed application (including the CFA, Application, scope of work, and budget)

- Projects where the potential for energy savings and implementation is not evident in the scope of work. Scopes of work without an identified energy efficiency or process improvement potential for each task or related clean energy measure or system analysis (Please refer to the scope of work template in Attachment A-1 for further guidance)

- Retrocommissioning (RCx) study applications that do not address RCx-specific requirements in Attachment A-1.

- RCx studies that are focused on:
    - non-energy efficiency impacts
    - facilities or equipment that have been in use for less than one year
    - verification and identification of deficiencies not related to proper control strategies, sequence of operations, and/or other building or system optimization strategies.
        - Note: the correction of deficiencies is ineligible for cost-shared funding

- DER studies where the potential for energy savings from energy efficiency or energy management measures have not been previously investigated.

- Technical assistance, studies or assessments whose need is not supported by existing site-specific conditions as documented in the scope of work

- Studies focused solely on demand response/peak load management, except for energy storage feasibility studies.

- Studies focused solely on compliance with mandates, laws, or orders (e.g. Local Law 87 and Executive Order 88) where potential for energy savings is not evident in the scope of work.

- Detailed engineering design

- Benchmarking

- Lighting only studies and analyses

- Power quality, power factor, and power conditioning studies

- Utility billing error analysis

- New facilities, or those that have undergone substantial renovations, must be occupied for more than one year to be eligible for energy efficiency analysis funding under this solicitation.

The following are **ineligible** for funding at Commercial Sites only:

- Studies focused solely on operations and maintenance measures and activities
- Metering equipment, metering-based software costs, and other data collection hard and soft costs, with the exception of certain energy storage feasibility studies (section VI)

  * Please note, for industrial sites and data center sites, NYSERDA caps metering/data collection costs at 25% of the total study cost.

III. PROGRAM PARAMETERS

- Separate submittals are required for energy efficiency and DER studies. Energy analyses on systems or measures that are conducive to the success of load modeling CHP, i.e. absorption chilling, are allowed within the CHP submission. CHP and energy storage studies may undergo review by an independent panel to determine eligibility for acceptance into this solicitation. The minimum criteria that must be met for NYSERDA to review CHP applications are listed in Section V: CHP Studies (Traditional and Premium). The minimum criteria that must be met for NYSERDA to review energy storage applications are listed in Section VI: Energy Storage Studies. Requirements for studies on CHP plus energy storage are in Section V and are considered CHP Premium studies.

- NYSERDA is not committed to cost-sharing an application until a Purchase Order (PO) is issued. Applicants and service providers are encouraged to commence work after NYSERDA issues a PO. Commencement of studies prior to receiving a PO is at their own risk.

- Completed FlexTech studies lacking recommended energy efficiency or process improvement opportunities or quantified energy savings, may receive a reduced cost-share or may not be reimbursed by NYSERDA.

- NYSERDA cost-share may be prorated at NYSERDA discretion. Funds may be used for technical assistance only and may not be used toward implementation or equipment purchase. At its sole discretion, NYSERDA may limit the cost share associated with a study.

- Unless otherwise negotiated, all work funded under this program must be completed within two (2) years of issuance of the PO.

- Facilities may not receive cost-sharing for similar activities or measures more than once every three (3) years.

- Inability to complete studies in a timely manner or according to project schedule may result in NYSERDA limiting the number of new applications a service provider or customer can submit to the program.

- Travel costs are limited to 3% of the total project cost.

- Applicants seeking funding for single, multifamily, or Publicly Assisted Housing are not eligible for clean energy technical analysis funding under this program, but may be eligible under NYSERDA's Residential or Multifamily programs. Information is available by calling toll-free 1-866-NYSERDA or at www.nyserda.ny.gov.

- For customers seeking a preliminary CHP study, NYSERDA recommends contacting EPA's CHP Partners at www.epa.gov/chp or DOE's Northeast Clean Energy Application Center at www.northeastcleanenergy.org

IV. PROGRAM PARTICIPATION

APPLYING TO PROGRAM

To apply, please complete the following:

- FlexTech Application: https://nyserda.seamlessdocs.com/f/flextech_app
  - Include the Scope of Work with a detailed budget (please see scope of work and budget template – Attachment A-1)
- CFA located at http://nyworks.ny.gov
- A complete application package is comprised of the FlexTech Application, a complete Scope of Work with a detailed budget and schedule, and the CFA. Incomplete project application packages will be rejected.

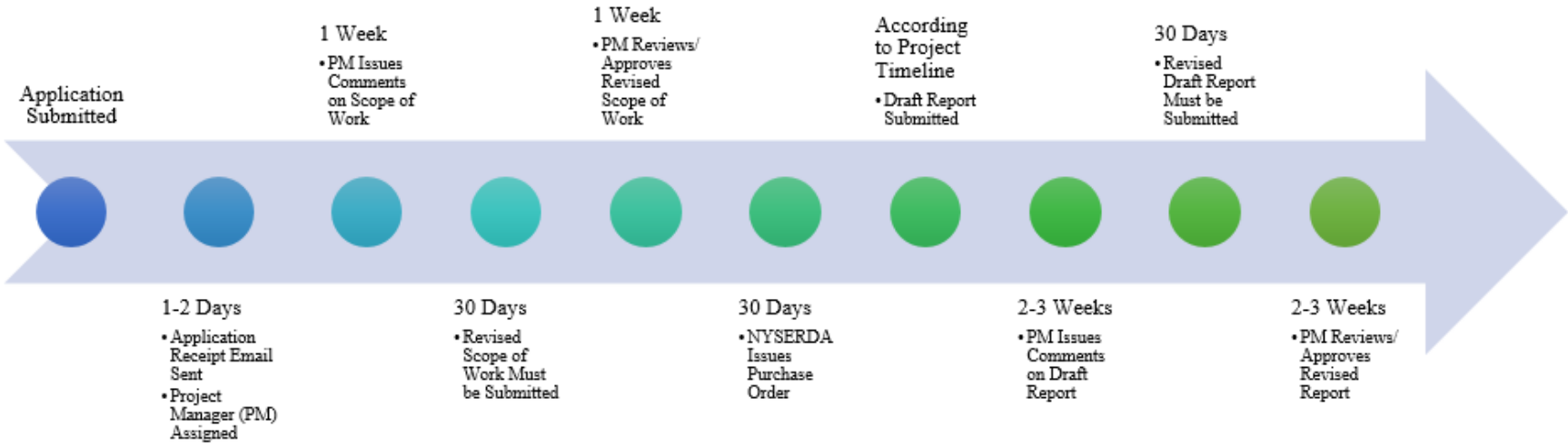
All applications will be reviewed on a first-come, first-served basis dependent on funding availability.

SCOPE OF WORK REQUIREMENTS

The scope of work is a stand-alone document describing the existing conditions of a facility and the tasks required to conduct a study and make clean energy technology and system recommendations. A scope of work generally ranges from four to eight pages and should clearly outline where potential energy efficiency opportunities exist and why a study or third-party service provider assistance is needed. **A scope of work template has been provided for reference (Attachment A-1). While the exact format of the scope of work template is not required, all information requested within the scope of work template must be included in some form in the project scope of work.** Failure to provide all required information may result in NYSERDA rejecting the scope of work.

CHP and energy storage project applications containing scopes of work that do not expand upon the requirements outlined in Sections V and VI, or that do not include site and project specific issues, may be rejected. Requirements for studies on CHP plus energy storage are in Section V and are considered CHP Premium studies.

PARTICIPATION PROCESS



- Please Note:
  - Scopes of Work and Draft Reports may require more than one round of comments.
  - Failure to submit items within specified timeline may result in cancellation.
  - CHP (traditional and premium) and Energy Storage study requests may first undergo review by a technical review committee. Applicants will be notified of acceptance or rejection 2-3 weeks after application submittal.

PROJECT PAYMENTS

For customers using a NYSERDA FlexTech Consultant
NYSERDA will contribute its share of the actual study cost, not to exceed the amount agreed upon in the Purchase Order towards the allowable FlexTech Consultant fees, directly to the FlexTech Consultant per the approved scope of work. Applicants will pay the remaining balance of the FlexTech Consultant fees directly to the FlexTech Consultant under the terms and conditions to be negotiated by the Customer and FlexTech Consultant. Progress payments are available at the discretion of the NYSERDA Project Manager.

> ***Required Documentation:***
> The FlexTech Consultant's invoice(s) should be broken out by non-labor costs, individual/staff titles, hourly rates, dates and hours worked on each task. Invoices should also indicate the amount that is being invoiced concurrently to the Customer. In addition, if applicable, NYSERDA may also require a copy of the customer's canceled check showing payment of their cost-share.

For customers using their own independent service provider
At the conclusion of a successful project and upon receipt of all required documentation, NYSERDA will reimburse customers its share of the cost incurred, not to exceed the cost-share agreed upon in the Purchase Order. Reimbursement will be based on services actually provided as defined in the Scope of Work and as documented by the approved final report, invoices and other documentation deemed necessary by NYSERDA. Unless otherwise noted, payments will be sent to the authorized Applicant (customer) listed in the FlexTech Application. Progress payments are available at the discretion of the NYSERDA Project Manager, not-to-exceed 50% of NYSERDA's total financial commitment.

> ***Required Documentation:***
> Reimbursement will be processed after receipt of an invoice from the customer to NYSERDA, a copy of the service provider's invoice(s) to the customer indicating the total study cost, and a copy of the metering equipment/software invoice(s), if applicable. The service provider's invoice(s) should be broken out by non-labor costs, individuals/staff titles, hourly rates, dates and hours worked on each task. If applicable, NYSERDA may also require a copy of the customer's canceled check(s) showing the total study cost amount payed to the service provider. At NYSERDA's discretion, a copy of the canceled check(s) from the customer to the service provider showing the total study cost and a copy of the lump-sum invoice may be accepted in lieu of a detailed invoice.

All invoices including reimbursement documentation must be submitted through https://services.nyserda.ny.gov/Invoices/.

V. CHP STUDIES (Traditional and Premium)

Premium Combined Heat and Power (CHP) studies include an evaluation of CHP coupled with other DER. The intent is to evaluate optimized (integrated) solutions that capitalize on advances in technology, control analytics and deliver on-site power with resiliency benefits. Applications for Premium CHP studies will be considered for behind-the-meter system solutions that include a mixture of generation. Clean gaseous fuel includes pipeline natural gas, compressed natural gas, or propane. For most Premium CHP studies, NYSERDA will contribute seventy five percent (75%) of the eligible study costs, up to the lesser of either $500,000 or ten percent (10%) of the participating facility's annual energy costs, per year, based on an approved Scope of Work.

Traditional CHP Systems represent a single-technology solution that simultaneously provides thermal and electrical energy at a host site. To be eligible for a study, the system must have a design intent to meet the requirement for efficient CHP, defined as an application of technology that achieves an average, annual, fuel-conversion efficiency meeting or exceeding an efficiency of 60% based on Higher Heating Value (HHV). For most single technology CHP studies, NYSERDA will contribute fifty percent (50%) of the eligible study costs, up to the lesser of either $500,000 or ten percent (10%) of the participating facility's annual energy costs, per year, based on an approved Scope of Work.

Scopes of work submitted under the CHP category are subject, at a minimum, to all CHP requirements within this PON. For those investigating CHP coupled with energy storage, the scope of work must include the additional requirements set forth within Section VI: Energy Storage Studies.

Please note, all projects may be subject to review by an independent panel of experts to determine acceptance into the FlexTech Program.

The following items are **ineligible** for funding:

- Scope of Work for studies of generation without a heat recovery component;
- Scopes of Work to evaluate CHP systems utilizing fuel sources other than clean gaseous fuel;
- Scopes of Work seeking assistance with evaluating systems using highly processed or treated materials (including materials painted or pressure treated with chromium, chlorine and arsenic bearing compounds);
- Scopes of Work seeking assistance with evaluating systems using Municipal Solid Waste;
- Scopes of Work seeking assistance with studies for which the potential CHP system would be larger in total prime mover capacity than 50 MW; and
- Scopes of Work seeking assistance with evaluating Traditional CHP systems for which less than 75% of the electricity generated would be used on-site. This requirement may be waived for Premium CHP systems where a combination of generation, storage, and/or load curtailment can modulate a facility's energy withdrawal and potentially inject energy into the grid.

CHP SCOPE OF WORK REQUIREMENTS

All submissions with a CHP component must follow the FlexTech requirements as outlined in Sections III and IV and comply with the requirements below and in Attachment B-4 Detailed CHP Final Study Requirements. Scopes of work shall expand upon the below CHP study requirements by including site and project specific information. Applications lacking the necessary detail to justify why a site may be a viable candidate for CHP may be rejected. Consultant staff, contractors, sub-contractors, etc. involved in the study must demonstrate at least three completed and related projects.

Scopes of work must:

- Be reasonable, organized and demonstrate an economically justified project.
- Identify the current site conditions and assumptions as well as include site specific supporting detail that includes, but is not limited to, utility service descriptions and facility maps.
- Provide a description of the building(s) including, but not limited to, location, usage, size (square footage and a size metric appropriate for the usage such as units in an apartment building).
- Include sufficient documentation to prove the host site has been evaluated and found to be a legitimate candidate for the study. This can be accomplished by providing results from a preliminary feasibility study or other similar type investigations.
- Methods to analyze the thermal and electric usage on an hourly profile per year, including utility data available and methodology behind obtaining incremental electric and thermal consumption in the space being studied.
- For existing buildings, modeled profiles must be based on actual hourly coincident electric and thermal measurements for a period not less than 14 continuous days during which no unusual events occur. For new construction, describe the anticipated use of building energy software for modeling purposes.

- Identify current tariffs and their impacts that would result from installation of the system and describe how such impacts will be incorporated into the energy and economic models. For Premium CHP studies this may include a traditional economic dispatch verse reliability dispatch and/or a real-time dispatch scenario to a non-dispatchable scenario.

- Compare only black start capability CHP system options. Systems must be able to operate during a grid outage.

- Describe the engineering analysis (i.e. DOE2, spreadsheet, etc.) that will be used to identify the match between the electric and thermal load profiles at the site. Elaborate on potential model assumptions to be used. There must be at least a potential for a 60% Fuel Conversion Efficiency based on Higher Heating Value (HHV).

- Also identify the generating technologies and combinations that would be studied. Only clean gaseous fuel-fired reciprocating engines, turbines, microturbines, and fuel cells are to be considered for CHP. Proposals evaluating fuel cells and microturbines may also need to evaluate reciprocating engines. Fuel cell proposals will be evaluated against performance thresholds as defined within the Fuel Cell solicitation.

- Include sufficient detail that will support the methodology proposed for each of the required items as outlined in Attachment B-4 Detailed CHP Final Study Requirements.

- Demonstrate sufficient consultant staff allocations and schedule to meet the objectives of the scope of work cost effectively.

VI. ENERGY STORAGE STUDIES

Eligible energy storage studies will examine and size distributed energy storage systems in New York State. Distributed energy storage systems are electrochemical, thermal, or mechanical systems located either with load (e.g., at a customer site), co-located with a distributed energy resource (solar PV), or connected directly to the distribution system (i.e. located with utility equipment). Applications for energy storage studies will be considered for solutions that include a mixture of generation and storage, however the focus of the study must be the energy storage system. Applicants seeking support for energy storage field demonstrations are encouraged to review PON 3541[1]. Evaluated systems under FlexTech are **not** limited to use cases required for funding under PON 3541. Studies that are predicated on business models that are not allowable, viable, or accessible in the New York energy market will not be eligible for funding.

The intended energy storage system installation described in the scope of work must meet the following criteria:

- Net roundtrip AC efficiency, including inverter and battery losses as well as house or parasitic load of the intended energy storage system under consideration, must be at least 70% based on manufacturer representations.

- The energy storage systems under consideration in the analysis must be a commercially available technology with proven performance at the system size proposed. This must be demonstrated by prior commercial deployments, the product carrying a commercial warranty, and any safety certifications required by the local permitting authorities. Contact NYSERDA at energystorage@nyserda.ny.gov if you have questions as to which standards are required in specific jurisdictions.

- If the system integrates storage plus solar PV, the PV installer must be an active Participating Contractor in NY-Sun's Commercial and Industrial Program, or Residential and Small Commercial Program. The solar PV system must be in compliance with the System Requirements detailed in the NY-Sun Initiative Program Manuals, which may be updated from time to time, and describe the requirements of Contractors that are active in the Commercial/Industrial or

[1] Demonstrating Distributed Energy Storage for 'Stacking' Customer and Grid Values (PON 3541): https://portal.nyserda.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt0000000QoO1AAK

Residential and Small Commercial Incentive Programs. Evaluated systems under FlexTech are **not** limited to use cases required for funding under the NY-Sun program.

- For energy storage systems located behind-the-meter at a customer's site, the proposed system must be designed to enable demand charge mitigation at the building. While not required, there is a strong desire to design the system to allow the building to participate in a distribution utility's and/or the NYISO's demand response program or another distribution system relief initiative. If the opportunity exists at the time of the study, the proposed system may also be designed to provide wholesale market functions, such as ancillary services.

- Systems designed to help defer utility distribution system upgrades, or paired with an intermittent renewable such as solar, are encouraged.

- Studies for systems intended for backup power/resilience are eligible for funding only if the backup function is secondary to the storage system's primary purpose of load management or dispatchable grid injections.

- If the energy storage is used at a customer site for building load management (a behind the meter use-case), a description of the building's load profile must be provided (as best as can be ascertained prior to FlexTech work beginning) to determine if peak reduction is feasible. If available, one year of historical hourly electric load data must be provided for interval metered customers. If a year of data is not available to fully show seasonal peaks and usage, Applicants should provide representative data and any supplemental information sufficient to characterize a facility's annual load.

- Studies to evaluate business models under hypothetical tariffs or market rules are ineligible. Applicants should refer to the NYSERDA energy storage webpage[2] or the NY-BEST webpage[3] for resources on retail and wholesale revenue opportunities available to energy storage. Applicants may also contact NYSERDA for assistance regarding proposed business models and value maximization at energystorage@nyserda.ny.gov.

ENERGY STORAGE SCOPE OF WORK REQUIREMENTS

An applicant must submit a scope of work ("SOW") per Attachment A-1. The following should be included as tasks described with specific deliverables, budget, and timeframe in the SOW. All energy storage submissions must follow the FlexTech requirements as outlined in Sections III and IV and comply with the requirements below and in Attachment B-5 Detailed Energy Storage Final Study Requirements. Scopes of work shall expand upon the below energy storage study requirements by including site and project specific information. Applications lacking the necessary detail to justify why a site may be a viable candidate for energy storage may be rejected. Consultant staff, contractors, sub-contractors, etc. involved in the study must demonstrate, in the introduction or as an addendum to the SOW, the necessary expertise and resources to execute the proposed study which may be demonstrated by evidence of engagement in NY markets applicable to the study, prior experience, an accurate representation of the opportunities and risks for the project to be studied, and any relevant letters of support.

Required tasks to be completed and reported on over the course of the FlexTech feasibility study:

- Provide information on the following data: customer load profile (peak load, duration of peak load, etc.), use case and power/energy requirements, energy storage systems considered (type/chemistry, rated and usable power and energy capacity requirements, charge and discharge rates (C rates and ramp rates) and state of charge minimums for the system, proposed kW and kWh of peak reduction achieved by the system (daily, frequency, annual), roundtrip AC system efficiency, estimated revenue and cost savings such as peak demand savings and energy arbitrage savings, and estimated number of cycles/timeframe before components of the energy storage system will require replacement (e.g., batteries, power electronics). For non-interval metered customers, data logging may be included as a first task in the study.

[2] https://www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage-Program
[3] https://www.ny-best.org/

- For systems located at a customer site, examine switching the customer to a standby tariff rate to maximize savings.

- Examine and compare alternative siting arrangements, including exterior site placement adjacent to the target building as part of the study as compared to indoor permitting, maintenance and operation costs and lost rental revenue, if applicable, associated with exterior or interior placement.

- Applicants will describe in their application for FlexTech funding how the system being evaluated has been designed to provide value. Applicants will provide information on how the system will be optimized and deployed for value stacking if possible, including demand charge reduction, retail or wholesale demand response participation, compensation under the value of distributed energy resources (VDER) tariff, other wholesale market participation, or non-wires alternative utility procurement funding. For customer-sited projects, projected peak load reduction by time of day and season should be included. Include any limitations on the system's operations that highlight how maximizing one value may limit another value (e.g. utility peak load not being coincident with facility peak load).

- Examine various forms of ownership including customer owned, third party owned, and Power Purchase Agreement/Energy as a Service type models including bundled renewable/storage products or shared savings models. Include a return on investment calculation in the study that identifies capital cost (hardware, hardware replacements (e.g., battery, pump, power electronic swaps), major categories of soft costs, energy cost, operating costs, etc.) and present revenue/cost saving streams over the system's lifetime. The soft costs would include estimates on siting, permitting, interconnection, financing, etc. NYSERDA staff will work with the technical consultant to identify any opportunities for maximizing revenue certainty over the life of the project.

- Ensure that necessary permitting requirements and anticipated timeframes are included in the final project schedule. NYSERDA will also work with the technical consultant to share experience and best practices.

VII. GENERAL CONDITIONS

PROPRIETARY INFORMATION

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 proposer 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 except it from disclosure, including a written statement of the reasons why the information should be excepted. 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
625 Broadway
Albany, NY 12207

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

Empire State Development
Minority and Women's Business Development Division
625 Broadway
Albany, NY 12207

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 procurement lobbying requirements which can be found at https://online.ogs.ny.gov/legal/lobbyinglawfaq/default.aspx . Proposers are required to answer questions during proposal submission, which will include making required certification under the State Finance Law and to disclose any Prior Findings of Non-Responsibility (this 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 https://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 https://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 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. NYSERDA reserves the right to reject proposals based on the nature and number of any exceptions taken to the standard terms and conditions of the Sample Agreement. NYSERDA reserves the right to disqualify proposers based upon the results of a background check into publicly available information and the presence of a material possibility of any reputational or legal risk in making of the award.

Disclosure Requirement - The proposer 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 a proposer 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. Proposers 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.

CONTRACT AWARDS

NYSERDA may request additional data or material to support submissions including scope of work modifications or negotiations before issuing a Purchase Order. Each application should be submitted using the most favorable cost and technical terms. NYSERDA will use the FlexTech Application (https://nyserda.seamlessdocs.com/f/flextech_app) and Attachment A-1 to contract successful applications. A sample Purchase Order is available on request. NYSERDA expects to notify customers in approximately three (3) weeks from the receipt of a complete project package whether the submission has been selected to receive an award. NYSERDA may notify the customer's utility of participation in the FlexTech Program in order to facilitate information sharing about potential utility implementation incentives available.

VIII. ATTACHMENTS

- Attachment A-1: Scope of Work and Budget Template
- Attachment A-2: Agriculture Energy Audit Application
- Attachment B-1: Final Report Requirements
- Attachment B-2: Project Summary Sheet
- Attachment B-3: NYSERDA RCx Deficiency Worksheet
- Attachment B-4: Detailed CHP Study Requirements
- Attachment B-5: Detailed Energy Storage Study Requirements

Attachment A-1 Scope of Work and Budget Template

This template is provided as a guide and while this format is not required, all information requested below must be included in some form in a FlexTech scope of work.

Please do not include customer utility account numbers in the scope of work.

PROJECT DESCRIPTION: Describe the facility or campus including building layout (or tenant space), age, square footage, number of stories, operating hours, process equipment for industrial sites, and overall mission of the organization. Justify need for Program assistance.	
Facility name	
Organization mission	
Approx. number of employees	
Building(s) square footage, and description of building and/or process equipment to be evaluated.	*For RCx studies, this section should also include an inventory of all equipment to be evaluated and/or tested as a part of this project. This list should also indicate if sampling will be used in the testing of the equipment. The sampling rate and which equipment it applies to should be indicated. NYSERDA may require that the scope of work include a list of the components contained within the system being commissioned.*
Identified need or desired results from FlexTech Program participation.	*This section should include a detailed description of current energy consuming systems relevant to the FlexTech project and justifiable reasons for why the proposed study is needed and what the report will help accomplish (reasons must be site specific, i.e. based on observation from walk through or customer feedback).*

TASKS TO BE PERFORMED: The next pages should divide the project into numbered tasks. Each task requires a deliverable.

Tasks may include data collection, site visits, utility bill & energy use analysis, and report development.

Each energy efficiency measure (EEM) reviewed should be listed as a single task. Please indicate the following:

a. What will be reviewed
b. What is the current condition of the system or operation (if not included in previous section)
c. What scenarios will be evaluated as potential solutions
d. What is the anticipated method of data collection (data logger, building management system, nameplate, etc.)
    a. For RCx projects, include a list of expected equipment to be used in the RCx process.
e. What method will be used to calculate the energy savings (modeling (specify software), spreadsheet, etc.)
    a. NYSERDA needs to be able to review assumptions in the energy savings or process efficiency analysis. If utilizing proprietary software or spreadsheets, please divulge and discuss with NYSERDA an appropriate solution to sharing assumptions and results.

Task 1:	a. b.

	c. d.
Deliverable 1:	
Task 2:	a. b. c. d.
Deliverable 2:	

PROGRESS REPORTS (as applicable): Long-term energy management plans, energy advisor services, RCx or other expansive studies may require progress reports to ensure project direction and results are in line with NYSERDA cost-share eligibility. Please explain the nature of the intended progress updates. Examples include:

- Monthly or quarterly emails to applicant and NYSERDA for review and approval,
- Interim task additions for review and approval,
- Scheduled in person updates with applicant and NYSERDA, and
- Interim draft reports to be reviewed, approved, and finalized with applicant and NYSERDA.
- For RCx studies, a current facilities requirement (CFR) and a RCx Plan will be required interim deliverables to establish a baseline for the RCx effort.
    - At a minimum, the CFR must include: Setpoints – Heating and cooling, Setpoints – occupied and unoccupied, ventilation, schedule, space pressurization, expected occupancy, and filtration requirements.
    - At a minimum, the RCx Plan must include: general description of the building, operations, equipment to be tested, schedule for testing (accounting for testing of seasonal equipment), means and methods for testing, expected support from the site and/or additional contractors,

Failure to provide the specified progress report may result in project termination.

SITE VISITS: List the expected number and nature of site visits, requested staff presence, staff interviews and site access required. This should include non-data collection visits as well.

ASSUMPTIONS: Provide a list of assumptions relevant to project completion. Note any information the customer has agreed to provide the consultant for the completion of the study. Examples include:

- Access to mechanical rooms, roof, and basement will be provided
- Access to and accompaniment by facility staff to tenant spaces will be provided
- Access to building management software systems will be provided
- Minimum of 1 year of preceding utility bill rates and usage will be required and utilized
- As-builts or other design schematics, if available, will be provided
- Previous energy analysis performed either in-house or by 3rd party service providers will be shared

DRAFT REPORT: NYSERDA will provide written comments to the applicant and service provider. A conference call to discuss the comments may be held at the request of any party. Responses to the comments should come in the form of a revised draft report. The revised draft report will include responses to the customer comments as well.

A draft report encompassing the tasks as outlined in the approved scope of work that follows Attachment B-1 and includes a Project Summary Sheet (Attachment B-2) will be provided for review and comment to the applicant and NYSERDA. For RCX projects, Attachment B-3: NYSERDA RCx Deficiency Worksheet is required for each deficiency found. Fulfillment of Attachment B-4: Detailed CHP Study Requirements is required for CHP studies. Fulfillment of Attachment B-5: Energy Storage Study Requirements is required for energy storage studies.

FINAL REPORT: NYSERDA will issue a final report approval letter and request invoicing.

An electronic final report will be provided to the applicant and NYSERDA.

SCHEDULE: Please provide anticipated schedule for completing tasks. This schedule should be in a "weeks from purchase order" format. The schedule should correspond to the individual tasks and budget. For example: Kick-off meeting within two weeks of purchase order; Task 1.0 completed within four weeks of purchase order, etc. An expected draft report due date should be provided. If this date changes, please notify the applicant and NYSERDA as soon as possible. Example below.

	Time (in weeks from notice to proceed)
1. *Data Collection*	## - ##
2. *Utility Bill Analysis*	## - ##
3. *Site Visits*	
4. *Preliminary Energy Use Analysis*	## - ##
5. *Energy Efficiency Measures(EEM)*	## - ##
EEM Task 1	
EEM Task 2	
6. *Progress Report(s) and Meeting*	## - ##
7. *Draft report to NYSERDA*	## - ##
8. *Final report to NYSERDA*	## - ##

STUDY COST: Complete the Budget Template below or equivalent. Provide total study costs and list the applicant and NYSERDA cost-share within the scope of work. The budget should be broken down according to potential ECMs as identified during the onsite walk-through.

For customers utilizing a FlexTech Consultant:
The total cost to complete the tasks associated with this scope of work is $_____. The Customer will contribute $_____ and NYSERDA will contribute $_____, as specified in the NYSERDA Purchase Order.

For customers utilizing an independent service provider:
The total cost to complete the tasks associated with this scope of work is $_____. The Customer will contribute $_____ and request $_____ reimbursement from NYSERDA, as specified in the NYSERDA Purchase Order.

BUDGET TEMPLATE:

PROJECT BUDGET

APPLICANT/CUSTOMER:
PROJECT:

(date)

Task	Task Description (samples below)	Title Rate	Title Rate	Title Rate	Title Rate	Title Rate	Title Rate	Title Rate	Total
									0
1	Data Collection								0
2									0
3									0
4									0
5									0
6	Draft Report Development								0
7	Final Report								0
									0
									0
									0
									0
	Total Hours	0	0	0	0	0	0	0	0
	Hourly Charge-out Rate (Multiplier)								---
	Total Labor Fee	$0	$0	$0	$0	$0	$0	$0	**$0**

Project Expenses

Item	Amount	Unit	Unit Cost	Total
Expenses			$0	$0
Mileage		mile	$0.000	$0
			Total	**$0**

Labor Effort = $0
Expenses = $0

TOTAL PROJECT BUDGET = $0

Customer Share = $0

NYSERDA Share = $0

Attachment A-2: Agricultural Energy Audit (page 1 of 2)

Agriculture Energy Audit

APPLICANT INFORMATION

Applicant / Farm Name

Contact Name and Title

Farm Address

City

State

Zip

Primary Phone Number (include area code)

Secondary Phone Number (include area code)

Fax

Best time to call: ☐Morning ☐Afternoon ☐Evening

Email

Correspondence Address (if different than Farm Address) **Check appropriate box:**

☐Dairy ☐Orchard ☐Poultry/eggs ☐Greenhouse ☐Vegetable
☐Hog ☐Vineyard ☐Grain dryer ☐Other _____

Farm size (For example: number of milking cows, acres of greenhouse, etc. Please label units.)

Annual Production (Please label units).

Number of employees

Electric Utility Company

Electric Account number(s)

Do you pay a System Benefits Charge (SBC) on your Electric utility bill? ☐ Yes ☐ No

Natural Gas Utility Company

Gas Account number(s)

If you are already working with a FlexTech Consultant, list consultant's name. (if you are not already working with a Consultant, one will be assigned)

Audit level of interest:

☐**Level 1:** *(Ideal for small farms)* The FlexTech Consultant will visit farm to conduct a walk thru audit and provide a limited evaluation of energy conservation measures and energy efficiency recommendations. The deliverable is a summary letter of feasible energy efficiency measures.

☐**Level 2:** *(Most frequently recommended)* The FlexTech Consultant will visit the farm and provide a detailed energy audit with calculated evaluations of appropriate energy conservation measures including simple payback. The deliverable is an energy audit report that meets ANSI/ASABE S612 standards.

Attachment A-2: Agricultural Energy Audit (page 2 of 2)

☐**Level 3:** *(Recommended for an in-depth look at a single system)* The FlexTech Consultant will conduct a site visit focused on a specific system or measure, which could include renewable energy, with a more detailed analysis. The deliverable is a system specific energy analysis report.

☐I would like someone to call me to discuss what level is appropriate for my farm

For questions or assistance, please call 1-800-732-1399.

AGREEMENT TO TERMS, CONDITIONS, AND CERTIFICATION

I, the Applicant, certify that the farm named on this application is interested in receiving an energy audit and request that NYSERDA set aside funds to contribute up to 100%, or $1,500 for Level 1; $2,500 for Level 2; or up to $6,000 for Level 3, towards the allowable NYSERDA Consultant fees. NYSERDA's contribution will be paid directly to the Consultant, provided the work is acceptable to the Applicant and NYSERDA.

I, the Applicant, understand that NYSERDA does not provide any endorsement of the Consultant's capabilities to provide services outside of the audit's Scope of Work to be conducted pursuant to this application. The Applicant acknowledges that neither NYSERDA nor its Consultant is responsible for assuring that the design, engineering, or installation of any recommendation of the technical service is proper or complies with any particular laws (including patent laws), codes, or industry standards. NYSERDA does not make any representations of any kind regarding the results to be achieved or the adequacy or safety of any recommendation.

NYSERDA does not endorse, guarantee, or warrant any particular manufacturer or product and NYSERDA provides no warranties, expressed or implied for any product or service.

Applications will be processed in the order received until program funds are fully committed.

The Applicant certifies that this Facility is a customer of a New York State investor-owned utility and the System Benefits Charge (SBC) is paid.

I certify that I am an authorized signatory for the Applicant/Farm.

X

_____ _____

Authorized Applicant Signature **Date**

_____

Name and title (please print)

Please mail application to:
NYSERDA
Attn: Agriculture Energy Audit Program Administrator
17 Columbia Circle
Albany, NY 12203-6399

Attachment B-1: Final Report Requirements

Project Summary Sheet - This one-page summary outline is required for all projects (see Attachment B-2). This form provides an overview of the project by summarizing the payback, costs and savings in dollars, mmBtus, and kWh, and kW where appropriate.

Executive Summary - Concisely summarize the FlexTech project's intent, findings, recommendations, and the economics of the recommendations in narrative format.

Background - Provide information about the applicant and the project, such as type of business or organization, average number of employees per location, annual energy costs by fuel type, electric and gas suppliers, and rate tariff.

Project Description - Include a description of the project intent, approach, and tasks performed as defined in the project scope. If any deviations from the scope of work occurred during the project, please provide an explanation for those changes**.**

Project Results/Recommendations - Describe the project findings here.

- **Include reasons for recommendations** on cost-effective energy efficiency measures and capital improvements.

- **Economic analysis**: Provide recommendations supported by thorough economic evaluation to include, at minimum, all parameters required for simple payback analysis. Life-cycle cost or other more detailed analyses (e.g. ROI, IRR, etc.) may also be included, if desired or if required by the scope of work. An estimate of implementation costs with the source citation or vendor quotes if applicable should be provided.

- **Additional benefits**: Final reports should strive to include information on additional potential project benefits, such as increased productivity, job creation or retention, greenhouse gas reduction, or environmental benefits. Include a qualitative description of other project benefits, such as increased knowledge or information base, comfort, competitiveness, product quality, or energy affordability.

- **For projects where computer modeling is used, reports must also include**:
    1. Brief presentation of the manipulations which the software program performed (e.g. utility bill calibration and accuracy level)
    2. Input data for the building and for each EEM should be presented in a manner which allows easy identification of input parameters
    3. Output data from model with clear and precise presentation of the results in both tabular and narrative forms
    4. Verification that interaction effects were taken into account

- **For projects that include RCx, reports must also include**:
    1. Final current facilities requirement (CFR) document that includes:
        a. Setpoints – Heating and cooling
        b. Setpoints – occupied and unoccupied
        c. Ventilation
        d. Schedule
        e. Space pressurization
        f. Expected occupancy
        g. Filtration requirements
    2. A description of all existing building systems included in the RCx effort, including but not limited to
        a. major equipment classification, sizing, location, operating scenario, age, condition, and efficiency
        b. basic control ideology for each individual system
        c. distribution system design
        d. design and/or tested flow rates
        e. known issues at the project start
    3. All forms (pre and post) for tested deficiencies that demonstrate methodology and completeness of the testing

4. Output data from model with clear and precise presentation of the results in both tabular and narrative forms
5. Verification that interaction effects were taken into account

Appendices - This section shall include supporting documentation for all recommendations not included in the previous section, along with:

- Historical energy costs (minimum 12 months)
- One RCx Deficiency Worksheet (Attachment B-3) must be completed for each deficiency found and must provide an energy cost/savings associated with the deficiency. These values must be supported in the report by the appropriate engineering calculations. Each deficiency must also be included on the required Project Summary Sheet.
- Calculations for all EEM's reviewed, with assumptions
- Energy savings calculations must demonstrate clear assumptions based on anticipated changes to the system or equipment being evaluated
    - Include, where appropriate, measured data logs with accurate units of measure and indication of the measured data source(s).
- Rule of thumb assumptions and percentage savings calculations are not acceptable
- Energy savings calculations must be presented as savings at the customer's utility meter(s), and not at the individual building or tenant space. *For example, self-generated steam or chilled water savings should be reported back to the source of generation (i.e. natural gas)*
- Conversion factors
- Itemized project implementation costs (at minimum material and labor costs associated with each measure)
- Sources of cost estimates and/or vendor quotes as applicable

***FlexTech Consultants: All FlexTech Consultant draft and final reports must be stamped by a Licensed Professional Engineer.**

Attachment B-2: Project Summary Sheet

Attachment B-2:

PROJECT SUMMARY SHEET

Customers Name		Contact Person	
Address		Title	
		Telephone #	
		Email	

STRATEGY OF ENERGY SAVINGS

Measure Description	Measure Status (See notes)	Fuel Type Saved (See notes)	Electric Supply Savings (kWh)	Electric Demand Savings (kW)	Fuel Savings (non-electric) (mmBTUs)	Percent(%) of savings to total fuel consumption	Annual Cost Savings	Estimated Implementation Costs	Simple Payback (Years)
						0.00%	$	$	0.0
						0.00%	$	$	0.0
						0.00%	$	$	0.0
						0.00%	$	$	0.0
						0.00%	$	$	0.0
						0.00%	$	$	0.0
						0.00%	$	$	0.0
						0.00%	$	$	0.0
TOTAL (RECOMMENDED ONLY):			0	0.0	0	0.00%	$ 0.00	$ 0.00	0.0

Notes:

Measure Status: Implemented (I); Recommended (R); Further Study Recommended (RS); Not Recommended (NR); Recommended Mutually Exclusive (RME).

Fuel Saved Type: Elec, NGas, Oil2, Oil4, Oil6, Coal, LPG. MMBtu = 1,000,000 Btu

Please note, energy savings must be presented as savings at the customer's utility meter(s), and not at the individual building or tenant space.

Attachment B-3
NYSERDA RCx Deficiency Worksheet
(example)

Deficiency Number:

Annual Electric Supply Savings (kWh)	Annual Electric Demand savings (kW)	Annual Fuel Savings (mmBTU)	Annual Cost Savings	Implementation Cost	Fuel Type Saved	Simple Payback (Years)	Supporting Calculations Location:
8,200	*0*	*200*	*$3,384*	*$250*	*E & G*	*0.1*	*appendix c, page 56*

System:	HVAC
Component:	AHU #12
Location:	East Wing over Conference Room
Notes	Damper appears to be stuck as a result of a control wire breaking off of the control motor.

Deficiency Description	Effect on system operation	Corrective Action	Benefit[(1)]	Recommend Corrective action?	Implementation Status	Point of Responsibility
Air damper stuck in open position	*Over ventilation and cooling of offices 8-12*	*Repair and adjust damper*	*E, C, O*	*Yes*	*(corrected, implemented, in progress, etc.)*	

Instructions:
One worksheet is to be completed for each deficiency found in the RCx study and included in the report.
For each deficiency found, the energy saving/cost associated must be included. If the deficiency does not have any associated energy savings, zeros should be used. The complexity of the energy savings calculations should be appropriate to the size of the energy savings.
Each deficiency must also be included in the required NYSERDA Project Summary Sheet (Attachment B-2).

Notes:
[1] E= Improved energy efficiency; C= Improved comfort; M= Reduced maintenance; O= Improved operation efficiency

Attachment B-4

DETAILED CHP STUDY REQUIREMENTS

The following information must be included in detailed CHP feasibility (both Premium and Traditional CHP) studies, in addition to general final report requirements in Attachment B-1.

System Information

- Energy use profiles must be reviewed in detail to accurately determine the level of temporal coincidence between thermal and electrical loads to be satisfied by the CHP system. An electronic copy of a spreadsheet-based model that describes system operation, including electricity produced and heat recovered on an hourly basis for a year must be provided in the final report. Assumptions used in the model should be clearly indicated in the final report. (i.e. planned outage, unplanned outage, part-load operation)

- Thermal usage and electricity profiles must be illustrated in a figure for variance by month for one year and by hour on a summer, winter and shoulder day.

- The type and rating of the prime mover and an energy balance around the prime mover must be shown. The energy balance must be applied to a schematic of the system showing all major components, including the uses for the recovered heat. 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 higher heating value (HHV).
    - The annual emissions of the proposed system must be provided.
    - Any additional emission control technology must be provided if necessary to meet emission regulations.

- The description of the proposed system must include a preliminary floor plan indicating equipment location. Construction cost estimates should include estimates for rigging, building construction (if necessary) and any anticipated structural modifications. If the proposed system is located in a flood zone, placement of the CHP system's critical components must be located above flood level.

- 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.

- A description of the enhanced measurement and verification methodologies for resource compensation services systems may provide. (Premium CHP communication and performance optimization).

- A description of existing systems to be impacted by the installation of the CHP system (boilers, chillers, etc.) and whether this equipment will be replaced, removed, or decommissioned as part of the proposed project in the study.

- The pressure and availability of the clean gaseous fuel 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. For Premium CHP this shall include information to support anticipated dispatch. Depending on configuration, a Premium CHP system will vary in its capacity, energy, and ancillary service characteristics.

- The analysis shall review black start capability of the proposed CHP system options.

- 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 along with a summary of project economics must be included.

- Economics must be presented in a simple payback format. Additionally, a cash flow analysis or life cycle cost analysis must be presented. Maintenance costs should also be described. The value provided by the CHP system and who those services are provided to should be broken out.

- Operational costs must include any impact to the customer's energy tariffs. The stand-by tariff analysis must include the impact of scheduled maintenance and should include a sensitivity analysis for unplanned CHP system downtime.

- Maintenance costs can be listed in $/kWh but must also be annualized. This should include M&V costs.

- Limitations or requirements to monetize value streams, and the cost/benefit analysis undertaken must be provided. The economic evaluation must include any impact or change to the customer's electricity rates. The stand-by tariff analysis must include the impact on the customer's billing rate and the potential for accessing additional revenue. The customer's electricity rates before and after the proposed system should be analyzed, and how future changes would impact the economics of the project should be presented.

- The proposed economic model and the revenue sought for the project must be possible under current market rules. The specific value streams, the quantified benefits, and the operational, regulatory and business model complexities must be sufficiently described in order to indicate that the proposed business model is viable and accessible.

- If the proposed project includes revenue from the wholesale market, or under a non-wires solution or other non-traditional utility investment, clear indication from the NYISO or the utility must be provided to show that this revenue is viable and accessible.

- Capital costs must include:
    - Equipment purchase(s) and system installation
    - Structural (new building, existing building modifications, gas upgrades, etc.)
    - Interconnection cost (including application, and required upgrades or studies cost
    - Electrical distribution system changes
    - Customer acquisition cost
    - Rigging (if applicable)
    - Permitting cost (including application fees, responding to requests for additional information and studies)
    - Design fees
    - Commissioning
    - Finance cost (Including cost of capital, potential interest rate increases, due diligence, legal compliance and regulatory costs)

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 energy tariffs must be included. Contract dates and dates of potential tariff rule 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 describing 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.
    - A schematic of the electrical interconnection of the proposed system.

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 system 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.

Attachment B-5
DETAILED ENERGY STORAGE STUDY REQUIREMENTS

The following information must be included in detailed energy storage feasibility studies, in addition to general final report requirements in Attachment B-1.

System Information

- The use case requirements must be detailed, which includes an explanation of the barriers or complexities that would need to be addressed, how these issues can be addressed, and by what metric(s) the project will be considered feasible or infeasible. A model that describes system operation for a year must be provided in the final report. Assumptions used in the model should be clearly indicated in the final report.

- For behind-the-meter installations, one year of interval load data, or sufficient representative data and supplemental information sufficient to characterize a facility's annual load, must be reviewed in detail to accurately determine the level of peak load reduction to be provided by the energy storage system.

- The proposed energy storage system must be described.
    - Manufacturer, developer, and integrator
    - Power capacity, energy capacity, the energy storage chemistry or type

- A description of any existing distributed generation equipment and backup generation equipment on the site which is connected to serve the same electric load as the proposed energy storage system.

- A description of the operational strategy for system optimization to meet the requirements of the business model for the project must be provided.

- A project schedule that includes durations for procurement, customer contracting, design (engineering & architectural), interconnection, permitting, and commissioning must be provided.

- Site-specific grid interconnection issues and costs must be discussed. A brief, clear plan describing if and how the system will be properly interconnected to the grid, must be presented. A brief description of the necessary permits that the customer needs to obtain must be provided. Anticipated time frames should be incorporated in the Project schedule.

Economic Evaluation

- A summary of project economics must be included. Economics must be presented in a simple payback format. Additionally, a cash flow analysis or life cycle cost analysis must be presented. Maintenance costs should also be described. The value provided by the storage system and who those services are provided to should be broken out.

- Limitations or requirements to monetize value streams, and the cost/benefit analysis undertaken must be provided. The economic evaluation must include any impact or change to the customer's electricity rates. The stand-by tariff analysis must include the impact on the customer's billing rate and the potential for accessing additional revenue. The customer's electricity rates before and after the proposed system should be analyzed, and how future changes would impact the economics of the project should be presented.

- The proposed economic model and the revenue sought for the project must be possible under current market rules. The specific value streams, the quantified benefits, and the operational, regulatory and business model complexities must be sufficiently described in order to indicate that the proposed business model is viable and accessible.

- If the proposed project includes revenue from the wholesale market, or under a non-wires solution or other non-traditional utility investment, clear indication from the NYISO or the utility must be provided to show that this revenue is viable and accessible.

- The expected total installed cost of the potential installation must include:
    - Hardware cost (Battery modules, inverter, containerization, controller, power control, HVAC system, meter, insulation. Excludes upgrades required for permitting or interconnection approval.)
    - Engineering and Construction cost (Design, site preparation/survey, transportation, PE approval, testing, electrician and installation labor, wiring, fencing, testing, commissioning, and enrollment in energy markets. Excludes upgrades required for permitting or interconnection approval.)
    - Permitting cost (including application fees, responding to requests for additional information, studies, and unique safety protections required from the permitting authority)
    - Interconnection cost (including application, and required upgrades or studies cost)
    - Customer acquisition cost
    - Finance cost (including cost of capital and due diligence)