**Technical Assistance Program**
**Program Opportunity Notice (PON)1197**

**Applications accepted on a first-come, first-serve basis through November 30, 2009**

## SUMMARY OF REVISIONS

**The following changes have been made to PON 1197, Technical Assistance Program:**

- Peak Load Curtailment Plans will no longer be restricted to Con Edison service territory.
- The number of open applications or projects that Customers and Service Providers are eligible to have at any given time been increased from four to six.

Applications accepted on a first-come, first-serve basis through November 30, 2009**

# Technical Assistance
# Program Opportunity Notice (PON) No. 1197

**PROGRAM SUMMARY:**

The New York State Energy Research and Development Authority (NYSERDA), as administrator of the **New York Energy $mart**SM Program, is seeking applications from facilities interested in energy efficiency technical evaluations, peak-load reduction studies, energy procurement analysis, proposals that study the feasibility of implementing combined heat & power (CHP) and renewable generation, and Peak-Load Curtailment Plans. This solicitation is divided into three (3) separate components: 1) Energy Efficiency Technical Assistance; 2) CHP and Renewable Generation Technical Assistance; and 3) Peak-Load Curtailment Plan Technical Assistance.

For most Energy Efficiency Technical Assistance and CHP and Renewable Generation Technical Assistance projects, NYSERDA will cost-share up to $500,000 on selected studies performed by an independent Service Provider as described herein. For electrical customers of Consolidated Edison Company of New York Inc. (Con Edison), NYSERDA will cost-share up to $1,000,000 on such studies. For Peak-Load Curtailment Plans, which are available to Con Edison customers only, NYSERDA will provide up to $2/kW of the facility's peak summer (May-October) electrical demand directly to Service Providers.

**APPLICATION SUBMISSION:** All applications should be clearly labeled and sent to:

Roseanne Viscusi, PON 1197
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, New York 12203-6399

CHP and renewable generation program questions should be directed to Mark Gundrum (866-NYSERDA, ext. 3256). All other program questions should be directed to Rachel Adams (212-971-5342, ext. 3016). All contractual questions should be directed to Doreen Darling (866-NYSERDA, ext. 3216).

** Applications are due by 5:00 pm Eastern Time. Late, incomplete applications or scopes of work will be returned. Faxed or e-mailed applications will not be accepted. Applications will not be accepted at any other NYSERDA location other than the address specified below.

# I. INTRODUCTION

The Technical Assistance program goal is to increase productivity and economic competitiveness of participating facilities through implementation of cost-effective, energy efficiency measures, peak-load curtailment and CHP and renewable generation projects.

This solicitation is divided into three (3) separate components: 1) Energy Efficiency Technical Assistance; 2) CHP and Renewable Generation Technical Assistance; and, 3) Peak-Load Curtailment Plan Technical Assistance.

All three components will be reviewed for funding on a first-come, first-serve basis. Applicants may choose to submit an application to any component. Separate applications must be submitted for each component, except that an application for both energy efficiency and CHP and renewable generation measures may be combined. This combined application will be accepted only to the CHP and renewable generation component. General classifications are defined below.

**ENERGY EFFICIENCY PROJECT CLASSIFICATIONS**
Applicants may propose projects in one or more of the following energy efficiency project classifications:

- **Peak-Load Reduction and Load Management** studies evaluate the installation of permanent equipment or operational procedures that reduce electrical peak summer demand, and identify short-term electric load curtailment strategies. Historically, peak-load occurs between May 1 and October 31, during the hours of Noon to 6:00 P.M. A small portion of the study costs may be used to purchase and install permanent interval meters to provide real-time metering information for facilities.

- **Energy Feasibility** studies evaluate improving the energy efficiency of a facility by identifying cost-effective measures which, in turn, increase productivity and economic competitiveness. Types of assistance eligible for funding will generally be in the categories of energy-efficient equipment replacement and evaluating energy related process improvements.

- **Energy Procurement** studies analyze rates, load shape(s), and energy service aggregation opportunities. The goal is to help customers become more energy-efficient, and obtain a better understanding of their energy consumption, time of use, and purchase options through cost-effective procurement practices. Examples of projects eligible for funding include: analyzing customer baselines/loads/rates; obtaining technical assistance to help customers to prepare Requests for Proposals (RFPs), review proposals, and prepare for negotiations with power marketers; obtaining advice on load aggregation and energy efficiency projects from energy service companies (ESCOs) with respect to potential performance contracting opportunities; and aggregating customers to purchase energy.

- **Energy Efficiency Retro-Commissioning (RCx)** studies analyze and evaluate procedures that reduce energy consumption and costs by identifying operational efficiency improvements. RCx is a systematic process that optimizes the performance of an existing building or system. RCx does not include replacement of significant HVAC or other building components, but rather focuses on the verification of proper control strategies, sequence of operations, operations and maintenance plans, and other building or system optimization strategies.

- **Long-Term Energy Management** studies that develop long-term capital budget strategies for the systematic replacement or upgrade of energy consuming and capital intensive systems. They evaluate the current condition of the existing equipment, its expected useful life, and energy-efficient replacement alternatives as a basis for a long-term capital budget strategy.

- **Industrial Process Energy Analysis** studies assess and modify industrial processes to increase the efficiency of energy and material use. Projects may also focus on industrial process improvements aimed at increasing productivity, improving environmental performance, or minimizing waste.

- **Sustainable Energy Planning/Project Development Services** can provide multi-year technical support for energy performance contracting, project financing proposals, assistance with planning and implementation of strategies to reduce environmental footprints and for other assistance that promotes the implementation of energy efficiency products or services. Projects may include the following components: screening level energy evaluations of campuses, creating energy awareness programs, development of detailed technical support for decisions regarding the purchase of energy-efficient equipment, development of a baseline inventory of energy consumption and resulting waste streams, including $CO_2$ emissions, help in preparing bid documents for the purchase and installation of this equipment, preparation of RFPs, review of ESCO proposals, development of scopes-of-work for comprehensive energy audits conducted by a selected ESCO, review of comprehensive energy audits, review of proposed energy performance contracts, design review assistance, performance of independent measurement and verification (M&V) that equipment and installations are as specified, review of annual savings reports from ESCOs during the guarantee period, conflict resolution, and guidance for regulatory or environmental permitting.

**CHP & RENEWABLE GENERATION PROJECT CLASSIFICATIONS**

Applicants may propose to undertake one of the following electric generation project classifications:

- **Combined Heat & Power** studies that will investigate the site-specific technical and economic feasibility of installing CHP. All applications must identify the specific uses for the recovered heat. See Appendix C-1 for a description of eligible CHP projects.

- **Renewable Generation** studies that will investigate the site-specific technical and economic feasibility of installing electric generation capacity fueled by renewable resources. See Appendix C-1 for a definition of eligible renewable generation projects.

**PEAK-LOAD CURTAILMENT PLAN TECHNICAL ASSISTANCE PROJECT CLASSIFICATIONS**

Service Providers may submit an application for funds for the development of a Peak-Load Curtailment Plan. The purpose of this program component is to encourage service providers to develop comprehensive protocols which allow their Customers, in the Con Edison service territory, to respond to load curtailment calls from the New York Independent System Operator (NYISO) during periods of New York electrical system capacity constraints. Proof of customer registration in the NYISO Installed Capacity/Special Case Resources (ICAP/SCR) program is required. This "proof" can be in the form of a forwarded email from the NYISO providing the qualified load. Registration of curtailable load with the NYISO must not have taken place prior to the release of this solicitation.

**SERVICE PROVIDER SELECTION**

Technical Assistance Program participants choose their own qualified consultant. Alternatively, participants may request use of one of NYSERDA's pre-contracted FlexTech consultants by filling out the referral form at: http://www.nyserda.org/programs/flextech.asp. Potential Service Providers include, but are not limited to, ESCOs, energy consultants, and utility companies.

Customers seeking energy efficiency studies with annual electric utility bills less than $75,000 are encouraged to apply for the Energy Audit Program which provides low-cost, cost-shared, walk-through energy audits. More information about the Energy Audit Program is available at: www.nyserda.org/programs/energyaudit.asp.

**ELIGIBLE PARTICIPANTS**

Eligible participants include: NYS industrial and commercial facilities, State and local governments, not-for-profit and private institutions, public and private K-12 schools, colleges and universities, and health care facilities. NYSERDA is particularly interested in working with NYS electric distribution system customers of Central Hudson Gas & Electric Corporation, Con Edison, New York State Electric & Gas Corporation, National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation, and commercial gas customers of Con Edison who pay the Monthly Rate Adjustment (MRA).

**AVAILABLE FUNDS**
Up to $8,500,000 in funds are available through the Technical Assistance Program and will be paid on a first-come, first-serve basis.

## II. PROGRAM REQUIREMENTS AND LIMITATIONS

**MATCHING CONTRIBUTIONS/FUNDING LIMITS**
With the exception of Peak-Load Curtailment Plans, 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 customers, 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 applicant's annual energy costs, based on an approved Scope of Work.

For Energy Efficiency Technical Assistance and CHP & Renewable Generation Technical Assistance on behalf of Con Edison Electric customers, NYSERDA will contribute fifty percent (50%) of the eligible study costs, up to the lesser of either $1,000,000 or ten percent (10%) of the applicant's annual energy costs, based on an approved Scope of Work.

For Peak-Load Curtailment Plan Technical Assistance, NYSERDA will provide $2/kW of the facilities peak summer (defined as May-October) demand, up to $8,000 directly to the Service Provider. To be eligible, curtailable load must be equal to or greater than 10% of the faculty's peak summer demand and must exceed 100kW.

**OVERALL TECHNICAL ASSISTANCE PROGRAM LIMITATIONS/REQUIREMENTS**

- Applications requesting funding for both Energy Efficiency Technical Assistance and CHP & Renewable Generation Technical Assistance will only be reviewed through the CHP & renewable generation component of the PON. Applicants wishing to combine efficiency and generation are required to submit their applications through the CHP and renewable application process. Separate applications are required for all other components.

- Customers of the New York Power Authority (NYPA) or the Long Island Power Authority are not eligible for funding under this solicitation, except, NYPA customers who are also Con Edison gas customers assessed the MRA under rate classifications SC 1, SC 2, SC 3, SC 13 or, corresponding SC 9 transportation customers. These customers are eligible for natural gas-only studies. Others are encouraged to contact their local Utility Customer Service Representative about energy efficiency.

- With the exception of Peak-Load Curtailment Plan Technical Assistance, technical assistance provided and costs incurred, prior to authorization from NYSERDA (in the form of a NYSERDA issued Purchase Order), are not eligible for funding.

- NYSERDA's funding under this program is limited to 10% of the applicant's annual energy cost.

- Customers, and Service Providers, are limited to six (6) open applications and/or projects in the current or previous Technical Assistance Programs at any given time.

- Unless otherwise negotiated, all work funded under this program must be completed within two years of issuance of the Purchase Order.

- New facilities, or those that have undergone substantial renovations, must be occupied for more than one year to be eligible for Energy Efficiency Technical Assistance funding under this solicitation.

- New construction commissioning is not eligible for funding under this program.

- Detailed engineering design is considered an implementation effort under this solicitation and is not eligible for funding under this program.

- Service Provider travel costs are limited to 3% of the total project cost.

- Applications seeking funding for single, multifamily, or Publicly Assisted Housing are not eligible under this program, but may apply under NYSERDA's Residential Energy Affordability programs. Information is available by calling toll-free 1-866-NYSERDA or at www.GetEnergySmart.org.

- Applications seeking funds to support the sale or distribution of energy are not eligible for funding under this program except as defined in Appendix C-1.

- Equipment purchases are not eligible for funding under this program, except for metering equipment representing less than 25% of the eligible Technical Assistance project costs. To be eligible for funding, the metering equipment must be a necessary component of the funded study.

- No Service Provider can apply for more than 25% of the funds available under this program.

- Power quality, power factor, and power conditioning studies are not eligible for funding under this program.

- Utility billing error analysis is not eligible for funding under this program.

**ADDITIONAL ENERGY EFFICIENCY COMPONENT REQUIREMENTS/LIMITATIONS**

- RCx services funded under this component of the program must be specifically focused on energy efficiency. RCx studies without the potential for significant energy savings are not eligible for funding. Study costs may be prorated, at NYSERDA's discretion, with NYSERDA cost-sharing only the energy efficiency components. Funds may be used for evaluation of facilities only and may not be used to correct deficiencies found. Calculations demonstrating the potential energy impacts from repairing each deficiency are required. NYSERDA reserves the right to determine which projects are classified as RCx.

  NYSERDA may also require that the Scope of Work include a list of the components contained within the system being retro-commissioned. This could include identifying the size, type, age and location of all air handlers, pumps, chillers, control points, etc.

- Electrical interval metering or sub-metering may be eligible for funding where the added expense is justified through increases in the overall effectiveness of the technical evaluation or leads to participation in one of the NYISO load management programs. The purpose and type of interval meter along with installation locations must be detailed in the scope of work. Interval meters must be capable of capturing time sensitive data no less frequently than once-per-hour. Data must be accessible no less than once-per-day. Requested funds for the meters can not exceed 25% of the eligible Technical Assistance project cost.

- Organizations which generate, transmit or distribute energy for sale are not eligible for funding under this component of the program.

**ADDITIONAL CHP & RENEWABLE GENERATION COMPONENT REQUIREMENTS/LIMIATIONS**

- For renewable projects, the quantity and quality of the renewable energy resource should be determined before applying to this component. Any costs related to resource characterization should represent a small percentage of funds requested through this program. Customers interested in renewable projects are strongly encouraged to visit http://www.powernaturally.org/ for more information.

**CHP & RENEWABLE GENERATION COMPONENT INELIGIBLE PROJECTS**

- Applications for studies of non-renewable generation without a heat recovery component are not eligible for funding.

- Applications seeking assistance with evaluating systems where the potential renewable generation capacity would be larger than 5 MW are not eligible for funding.

- Applications seeking assistance with evaluating CHP systems for which the potential generation capacity would be larger than 50 MW or mechanical equivalent in total prime mover capacity, including back up, are not eligible for funding.

- Applications seeking assistance with evaluating CHP systems for which less than 75% of the electricity generated would be used on-site are not eligible for funding.

**ADDITIONAL PEAK-LOAD CURTAILMENT PLAN REQUIRMENTS/LIMIATIONS**

- Industrial facilities must have a peak summer demand (defined as May-October) exceeding 400 kW. Other facilities must have a peak summer demand exceeding 750 kW.

- To be eligible for funding, projects must not have sold the capacity identified in the Peak Load Curtailment Plan into the NYISO Demand Response programs (ICAP/SCR) more than 60 days prior to application. The sold date refers to the day in which the load becomes eligible for payment from the NYISO.

- Peak-Load Curtailment Plans must demonstrate that the peak-load is technically capable of being curtailed.

- A facility must demonstrate that it is capable of curtailing a minimum of 10% of its peak summer demand to be eligible.

- Peak-Load Curtailment Plans must demonstrate that the curtailable peak-load is greater-than or equal-to 100 kW.

## III. APPLICATIONS

Applications will be accepted until 5:00 pm on November 30, 2009. At least one copy of the application must contain an original signature. Faxed copies will not be accepted. Late, incomplete, or unsigned applications will be returned.

To apply to the **ENERGY EFFICIENCY TECHNICAL ASSISTANCE** component of this solicitation:

- Send two (2) copies of the completed application (Appendix A and A-1) and a complete Scope of Work (as defined in Appendix B-1) to the attention of Roseanne Viscusi at the address on the beginning of this PON.

To apply to the **CHP AND RENEWABLE GENERATION TECHNICAL ASSISTANCE** component of this solicitation:

- Send one hard copy and one electronic copy on a CD of the completed application (Appendix A and A-2) to the attention of Roseanne Viscusi at the address at the beginning of this PON.
- A complete application is comprised of Appendix A, Appendix A-2, a Scope of Work with an attached detailed budget (as defined in Appendix B-1) for the study to be conducted, and a two page list of the Service Provider's relevant project experience. Applications containing scopes of work that do not expand upon the requirements in Appendix C-2 or C-3 (as appropriate), to include site and project specific issues, will not be favorably reviewed.

To apply for the **PEAK-LOAD CURTAILMENT PLAN TECHNICAL ASSISTANCE** component of this solicitation:

- Send two (2) copies of the completed application (Appendix A and A-3), along with a Peak-Load Curtailment Plan for each facility (as outlined in Appendix D) and copies of one year of electricity bills to the attention of Roseanne Viscusi at the address at the beginning of this Program Opportunity Notice.

# IV. AWARDS

**ENERGY EFFICIENCY PROJECTS**

When NYSERDA receives an application (Appendix A and A-1) and a completed Scope of Work as defined in Appendix B, the application will be reviewed to verify that it meets the Technical Assistance program requirements, and the completed Scope of Work will be reviewed to assure it follows the format set forth in the Guidelines for Scopes of Work (Appendix B). If the application and/or completed Scope of Work do not meet NYSERDA's requirements, the entire package will be returned to the customer. If the application qualifies and the completed Scope of Work follows the guidelines, NYSERDA will assign a NYSERDA Project Manager and Technical Review Contractor who will issue comments to the customer requesting revisions and clarification of the Scope of Work as necessary.

Upon approval of a Scope of Work, NYSERDA will issue a Purchase Order to the customer. Technical assistance provided and costs incurred prior to the issuance of this Purchase Order are ineligible for funding under the Energy Efficiency Technical Assistance component of this program.

Final reports must comply with the requirements in Appendix B-2. Upon receipt of two copies of the draft report, the assigned Technical Review Contractor will issue comments to be addressed in the Final Report as necessary. Upon receipt and approval of two copies of the Final Report, NYSERDA will require a copy of the Service Provider's invoice(s) to the applicant indicating the total study cost, a copy of the interval meter invoice(s) if applicable, and an invoice from the applicant to NYSERDA. In addition, NYSERDA may also require a copy of the canceled check paying the total study cost paid to the Service Provider. The Service Provider's invoice(s) must be broken out by non-labor costs, individuals, titles, hourly rates, dates and hours worked on each task. At NYSERDA's discretion, a copy of the canceled check(s) from the applicant 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.

NYSERDA will reimburse the applicant the percentage of the actual Energy Efficiency Technical Assistance study as provided in the issued Purchase Order and documented by invoices, canceled checks, etc. When appropriate, NYSERDA may issue progress payments based on documented work delivered, up to the allowable percentage of the study cost, not-to-exceed 50% of NYSERDA's total financial commitment.

**CHP AND RENEWABLE GENERATION PROJECTS**

Applications will be evaluated by NYSERDA staff members and outside technical experts on a first come first served basis. The review will involve a comparative evaluation of the criteria in Appendix C-5. Applicants will be notified of the funding decisions approximately three (3) weeks after submission.

Upon approval, NYSERDA will assign a Project Manager who will issue comments to the customer requesting revisions and clarification of the Scope of Work as necessary. Upon approval of a Scope of Work, NYSERDA will issue a Purchase Order to the Customer. Technical assistance provided and costs incurred prior to the issuance of this Purchase Order are ineligible for funding under the CHP and Renewable Generation component of this program.

Final reports must comply with the requirements in Appendix B-2. Upon receipt of two copies of the Draft Report, NYSERDA will issue comments to be addressed in the Final Report. Upon receipt and approval of the Final Report, NYSERDA will require a copy of the Service Provider's invoice to the customer showing the total study cost and an invoice from the customer to NYSERDA. NYSERDA will reimburse the customer the

percentage of the actual CHP and Renewable Generation Technical Assistance study cost incurred, subject to the maximum dollar amount as provided in the issued Purchase Order. When appropriate, NYSERDA may issue progress payments up to the allowable percentage of the study cost, not-to-exceed 50% of NYSERDA's total financial commitment.

**PEAK-LOAD CURTAILMENT PLAN TECHNICAL ASSISTANCE**

When NYSERDA receives an application (Appendix A and A-3), evidence of new NYISO registration and a completed Peak-Load Curtailment Plan, as defined in Appendix D, the package will be reviewed to verify that it meets the program requirements. If eligible, a Purchase Order will be issued to the Service Provider and the completed Peak-Load Curtailment Plan will be assigned a NYSERDA Technical Review Contractor who will issue comments requesting revisions and clarification of the Peak-Load Curtailment Plan as necessary.

Upon approval of a Peak-Load Curtailment Plan, NYSERDA will provide $2/kW of the facilities peak summer (defined as May-October) demand, up to $8,000 directly to the Service Provider.

## V. REPORTING

A goal of this program is to share project successes with others who may gain from the transfer of technical information. In order to receive reimbursement, applicants awarded funding will be required to provide a Final Report or Peak-Load Curtailment Plan to NYSERDA. These reports must meet the requirements in Appendix B-2 or Appendix D as appropriate. A required one-page project summary sheet (Appendix B-3) will be provided by NYSERDA with the Purchase Order and must be completed for all projects.

In addition, an example of a project case study will be attached to the Purchase Order. This is to be used as a template to develop a case study of the findings of the technical assistance study, and must also be included with the Final Report. Other examples are available online under Technology Updates at: http://www.nyserda.org/programs/Technical_Assistance/tasuccess.asp.

Projects defined as energy efficiency RCx must also complete one NYSERDA RCx Deficiency Worksheet for each deficiency found (Appendix B-4). Each Deficiency Worksheet must have a corresponding line on the Project Summary Sheet.

## VI. GENERAL CONDITIONS

**PROPRIETARY INFORMATION**

Careful consideration should be given before confidential information is submitted to NYSERDA as part of your proposal. Review should include whether it is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes. The NYS Freedom of Information Law, Public Officers law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2) (d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise." Information submitted to NYSERDA that the 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 www.nyserda.org/nyserda.regulations.pdf. 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

**LIMITATION**
This solicitation does not commit NYSERDA to award a Purchase Order, 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 proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the solicitation when it is in NYSERDA's best interest.

**DISCLOSURE REQUIREMENT**
The 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 AWARD FOR ENERGY EFFICIENCY PROJECTS**
NYSERDA may award a Purchase Order based on applications without discussion, or following limited discussion, Scope of Work modifications or negotiations. NYSERDA may request additional data or material to support applications. A sample Purchase Order is available on request. NYSERDA expects to notify applicants in approximately three (3) weeks from the receipt of a complete application whether the application has been selected to receive an award.

**CONTRACT AWARD FOR CHP AND RENEWABLE GENERATION PROJECTS**
NYSERDA anticipates making multiple awards under this solicitation. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations. Each offer should be submitted using the most favorable cost and technical terms. NYSERDA may request additional data or material to support applications. NYSERDA will use the Sample Agreement to contract successful proposals. NYSERDA expects to notify proposers in approximately three (3) weeks from the receipt of an application whether the application has been selected to receive an award.

**CONTRACT AWARD FOR PEAK-LOAD CURTAILMENT PLAN TECHNICAL ASSISTANCE**
NYSERDA may award a Purchase Order based on applications without discussion, or following limited discussion, application modifications or negotiations. NYSERDA may request additional data or material to support applications. A sample Purchase Order is available on request. NYSERDA expects to notify applicants in approximately three (3) weeks from the receipt of an application whether the application has been selected to receive an award.

**PROJECT PAYMENTS**
NYSERDA will reimburse successful applicants for NYSERDA's share of the actual Energy Efficiency Technical Assistance and CHP and Renewable Generation Technical Assistance study cost provided in the issued Purchase Order, at the conclusion of the Technical Assistance project and upon receipt of the required documentation as outlined in Section IV and Section V of this PON. Reimbursement will be based on services actually provided, as defined in the Scope of Work, and as documented by the successful applicant's technical assistance Service Provider's invoices and other documentation deemed necessary by NYSERDA.

**PEAK-LOAD CURTAILMENT PLAN TECHNICAL ASSISTANCE PAYMENTS**
NYSERDA will provide an incentive of $2/kW (as outlined in Section IV) upon approval of the Peak-Load Curtailment Plan as outlined in Appendix D, copies of one year of electrical bills for the applicant facility and receipt of proof of new registration with the NY ISO's Demand Response Programs (ICAP/SCR) after the date of this PON. The curtailable load must be demonstrated to be feasible in the Peak-Load Curtailment Plan.

## VII. OTHER OPPORTUNITIES

NYSERDA has a number of programs available to New York State businesses and industries. These include implementation assistance programs, as well as many others. More information can be found on our website at www.nyserda.org, by e-mailing info@nyserda.org or by calling toll free 1-866-NYSERDA.

## VIII. ATTACHMENTS

Included:

Appendix A: Customer Application
Appendix A-1: Energy Efficiency Component Application
Appendix A-2: CHP and Renewable Generation Component Application
Appendix A-3: Peak-Load Curtailment Plan Component Application
Appendix B-1: How to Create a Scope of Work
Appendix B-2: Final Report Requirements
Appendix B-3: Project Summary Sheet
Appendix B-4: NYSERDA RCx Deficiency Worksheet (Filled in Example)
Appendix C-1: CHP & Renewable Generation Eligible Projects
Appendix C-2: Required information in a detailed CHP study (costing greater than $10,000)
Appendix C-3: Required information in a preliminary CHP study (costing less than $10,000)
Appendix C-4: Required information in a renewable generation study
Appendix C-5: CHP & Renewable Generation Evaluation Criteria
Appendix D: Peak-Load Curtailment Plan Requirements

Available at: http://www.nyserda.org/programs/Technical_Assistance/default.asp

- Appendix B-4 - NYSERDA RCx Deficiency Worksheet (Blank Form)
- Project Summary Sheet

Available at: http://www.nyserda.org/programs/Technical_Assistance/tasuccess.asp

- Case Studies

# PON 1197 - TECHNICAL ASSISTANCE
# APPLICATION FOR ALL PROGRAM COMPONENTS

## APPENDIX A

| CUSTOMER INFORMATION | |
|---|---|
| Customer | |
| Facility | |
| Federal ID Number | |
| Customer Facility Contact and Title | |
| Address | |
| City, State and Zip Code | |
| Phone and Fax | |
| E-Mail Address | |

| SERVICE PROVIDER INFORMATION | |
|---|---|
| Service Provider (Consultant) | |
| Service Provider Contact and Title | |
| Address | |
| City, State and Zip Code | |
| Phone and Fax | |
| E-Mail Address | |

| PROJECT FUNDING (Not Applicable for Load Curtailment) | |
|---|---|
| Total Technical Assistance Project Cost (detailed budget must be attached to the scope of work) | $ |
| Funds requested from NYSERDA | $ |

| FACILITY DESCRIPTION | |
|---|---|
| Type of Facilities | ☐ Commercial ☐ Governmental ☐ Not-for-Profit<br>☐ Industrial ☐ Institutional ☐ Other_____ |
| Electric Distribution Provider<br>(List Company Name) | |
| Electricity: | Annual $:<br>Annual kWh:<br>Peak Summer kW: |
| Electric Utility Account Number | |
| Electric Utility Service Classification | |
| Is the Applicant Facility in a Negotiated Rate Class? | ☐ Yes ☐ No |
| If yes, is the facility contributing to the System Benefits Charge Program? | ☐ Yes ☐ No ☐ N/A |
| Natural Gas Utility<br>(List Company Name) | |
| Natural Gas: | Annual $:<br>Annual Therms: |
| Does the Applicant's facility receive natural gas under one of Con Edison's firm gas rate classifications SC1, SC2, SC3, SC13 or any corresponding SC9 firm transportation rate class, and is the facility assessed the Monthly Rate Adjustment (MRA)? | ☐ Yes ☐ No ☐ N/A<br><br>If yes, please provide the Account Number:<br><br>_____ |
| Fuel Oil: | Annual $:<br>Annual Gal.: |
| Other significant energy: | Annual $:<br>Describe: |
| Total energy cost: | Annual $: |

| ADDITIONAL CUSTOMER QUESTIONS | |
|---|---|
| Have you been indicted for or convicted of a felony within the past five (5) years? (If yes, explain on a separate page. | ☐ Yes ☐ No |
| Has the Customer participated in other NYSERDA Programs? (If yes, list on a separate page) | ☐ Yes ☐ No |

| COMPLETE AND SIGN THE APPROPRIATE APPENDIX: |
|---|
| Energy Efficiency Projects …….A-1<br>CHP & Renewable Generation Projects…..A-2<br>Load Curtailment Projects……...A-3 |

# ENERGY EFFICIENCY
# Application Part II
## Appendix A-1 (to be included with Appendix A)

.

CUSTOMER CERTIFICATION

I, the Customer, certify that the facility or lead facility named in this application (Appendix A) is interested in technical assistance and is requesting that NYSERDA set aside funds to reimburse the facility for certain eligible costs in pursuing a technical assistance project. I certify that the information provided as part of this application is true to the best of my knowledge and that none of the work requesting funding herein has been undertaken. I understand that applications must meet the specified criteria described in Program Opportunity Notice 1197 and that all applications may not be funded.

CUSTOMER SIGNATURE / DATE:_____

NAME AND TITLE:_____

ORGANIZATION AND PHONE:_____

PLEASE NOTE: A scope of work as defined in Appendix B-1 must also be attached.

# CHP & RENEWABLE GENERATION
## Application Part II
## Appendix A-2 (to be included with Appendix A)

| ADDITIONAL PROJECT QUESTIONS | |
|---|---|
| Describe the potential uses for recovered heat or renewable energy source(s) at the site. Include an estimate of annual hours and quantity. | |
| List the technologies that will be evaluated and anticipated capacities. | |
| Describe in detail how the site's load profiles will be evaluated | |
| Does the Host Site Facility have any existing generation equipment? If yes, please describe the equipment, its use and anticipated relationship to the equipment to be evaluated in this study. | |

| CUSTOMER CERTIFICATION |
|---|
| I, the Customer, certify that the facility or lead facility named in this application is interested in technical assistance and is requesting that NYSERDA set aside funds to reimburse the facility for certain eligible costs in pursuing a technical assistance project. I certify that the information provided as part of this application is true to the best of my knowledge and that none of the work requesting funding herein has been undertaken. I understand that applications must meet the specified criteria described in Program Opportunity Notice 1197 and that all applications may not be funded. |
| CUSTOMER SIGNATURE / DATE:_____ |
| NAME AND TITLE:_____ |
| ORGANIZATION AND PHONE:_____ |

PLEASE NOTE: A scope of work as defined in Appendix B-1 must also be attached.

# PEAK LOAD CURTAILMENT PLAN
## Application Part II
## Appendix A-3 (to be included with Appendix A)

| ADDITIONAL PROJECT INFORMATION | |
|---|---|
| Month of Peak Demand | |
| Total Curtailable Load (kW) | |
| NY ISO ICAP/SCR Registration ID Number | |
| Date of enrollment in NY ISO ICAP/SCR | |
| Funds requested from NYSERDA<br>($2 times Peak Summer Demand of Facility) | $ |

| ADDITIONAL SERVICE PROVIDER QUESTION | |
|---|---|
| Have you been indicted for or convicted of a felony within the past five (5) years? (If yes, explain on a separate page. | ☐ Yes ☐ No |

| CUSTOMER CERTIFICATION | SERVICE PROVIDER CERTIFICATION |
|---|---|
| I, the Customer, certify that the facility named in this application is interested in the Peak-Load Curtailment Plan and enrollment in the NY ISO SCR/ICAP programs. I request that NYSERDA set aside funds to reimburse the Service Provider for development of the plan. I have the authority to put the Peak-Load Curtailment Plan into effect and I understand and will support the kW curtailment strategies identified as part of this application. I certify that the information provided as part of this application is true to the best of my knowledge. I understand that applications must meet the specified criteria described in Program Opportunity Notice 1197 and that all applications may not be funded. | I, the Service Provider, recognize and accept that participation in the program, and receipt of any program incentive payments, is predicated on following all guidelines and procedures established by the program. I certify that the information provided as part of this application is true to the best of my knowledge. I understand that applications must meet the specified criteria described in Program Opportunity Notice 1197 and that all applications may not be funded. |
| CUSTOMER SIGNATURE:_____ | SERVICE PROVIDER SIGNATURE:_____ |
| NAME AND TITLE:_____ | NAME AND TITLE:_____ |
| ORGANIZATION AND PHONE:_____ | ORGANIZATION AND PHONE:_____ |
| DATE:_____ | DATE:_____ |

**PLEASE NOTE:** A Peak-Load Curtailment Plan as defined in Appendix D must be attached to this application along with copies of one year of electrical energy bills and proof of registration with the NY ISO ICAP/SCR programs.

**Appendix B-1**

# How to Create a Scope of Work

1. The scope of work should be a stand-alone document titled "Exhibit A-1" and should not be in letter format. The Service Provider doing the work should also be noted. In general, Scopes of Work range from four to eight pages.
2. The first page of the Scope of Work should contain a one- or two-paragraph description of the customer's facility. This description should include: name, location, service provided or product produced, square footage of facility, number of employees, and approximate annual energy cost, fuel type, use (kW, kWh, MMBtu, dollars, etc), and energy provider.
3. The first page should also include a one- or two-paragraph description of the project making clear the need for the study. This should include a description of the current systems or methods in place and what will be reviewed to replace or change these systems or methods to become more efficient. This paragraph should also include the method of data collection (metering, motor nameplate etc.) and energy savings calculation (i.e. computer modeling, spreadsheets or manually etc.). For RCx projects, NYSERDA may require that the scope of work include a list of the components contained within the system being commissioned. This may include identifying the size, type, age and location of all air handlers, pumps, chillers, control points etc.
4. The next page or two should divide the project into numbered tasks. Each energy conservation measure (ECM) reviewed should be a single task. Each task should include a description of what will be reviewed in regard to that ECM, the current conditions and what will be evaluated as options. For example, if Task 1 were a lighting systems audit, the description under that task could note what lights are currently in place, that the audit would cover the entire facility and would include a review of lighting controls, reflectors, high efficiency ballasts and lamps, and a site review to reduce light levels in over-lit areas.
5. Following the Tasks section should be a paragraph describing the project assumptions, if necessary. Examples of this could be that the customer's facility would provide a knowledgeable guide to the consultants as they review the facilities, or note any information the customer has promised to provide the consultant for the completion of the study.
6. Following the Assumptions section, should be a one-paragraph section describing the Deliverables. This should state that a draft report will be forwarded to NYSERDA addressing all of the tasks described and will follow NYSERDA's format as defined in the Program Opportunity Notice (PON) Appendix B-2. It should also note that comments made by NYSERDA's project manager will be addressed in a final report which will also be forwarded to NYSERDA. Finally, the deliverable should also include a Project Summary Sheet and a Case Study. Examples of these will be provided with the Purchase Order and are available at http://www.nyserda.org/programs/Technical_Assistance/default.asp and http://www.nyserda.org/programs/Technical_Assistance/tasuccess.asp respectively.
7. Following the Deliverable description should be a schedule to complete each of the tasks. This schedule should be in a "weeks from notice to proceed" format. For example: Kick-off meeting within two weeks of notice to proceed; Task 1.0 completed within four weeks of notice to proceed, etc.
8. Finally, a detailed project budget broken out by task should be attached. For each task, the number of hours and dollars to be spent should be clearly indicated. This will provide a clear understanding of how much emphasis is being placed on each task and therefore, the level of detail that can be expected.

In general, the Scope of Work should eliminate any ambiguity about the project. It should be clear what the current status of the facility is, what will be reviewed in the study and in what detail the study will be done. The Scope of Work will be used as the basis for reimbursement by NYSERDA. The final report will be compared to this document to determine if it has met the requirements of the Technical Assistance program. It should therefore, be as detailed as possible. Overall, the Scope of Work will help all parties involved understand what is expected of them and what they can expect of the other participants.

**Appendix B-2**

# Final Report Requirements

**Executive Summary -** Concisely summarize the Technical Assistance project's intent, findings, recommendations, and 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.

**Project Results/Recommendations -** Describe the project findings here. Include reasons for recommendations on cost-effective, electrical energy efficiency measures and capital improvements. At a minimum, the recommendations and related economics must be presented. Life-cycle cost or other analyses may also be included, if desired. Final reports should include information on additional potential project benefits, such as increased productivity, job creation or retention, and environmental benefits. Include a qualitative description of other project benefits, such as increased knowledge or information base, comfort, competitiveness, product quality, or energy affordability. Describe the role of NYSERDA funding in making this project possible.

For projects where computer modeling is used, reports must also include: 1) a brief presentation of the manipulations which the program performed; 2) input data for the building and for each ECM should be presented in a manner which allows easy identification of input parameters; 3) clear and precise presentation of the results in both tabular and narrative forms, and; 4) verification that interaction effects were taken into account.

**Appendices -** This section will include supporting documentation for all recommendations not included in the previous section, along with historical energy costs, sample calculations for all ECM's reviewed, assumptions, conversion factors, items included in project implementation costs, and sources of cost estimates, etc.

**Project Summary Sheet -** This one page summary outline is required for all projects (see Appendix B-3). Copies are available online at http://www.nyserda.org/programs/Technical_Assistance/default.asp. This form provides a simple matrix of the project by summarizing the payback, costs and savings in dollars, therms, MMBtu's, and kWh and kW where appropriate.

**Case Study -** This one-page case study should follow the format of the case study which will be attached to the Purchase Order. Other examples are available online at: http://www.nyserda.org/programs/Technical_Assistance/tasuccess.asp. It must include photos and a brief description of the customer, project background, results, and benefits. Photos must be provided in digital and hard copy forms. Digital copies must be high resolution photo suitable for publication (300 dpi at 4"x6" max.). The Applicant agrees that NYSERDA may use the case study and the Final Report to promote successes of this Technical Assistance Program for replication throughout New York State.

**NYSERDA RCx Deficiency Worksheet -** This additional worksheet is required for all retro-commissioning projects. See Appendix B-4. One worksheet 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 appropriate engineering calculations. Each deficiency must also be included on the required Project Summary Sheet.

**Appendix B-3**

# PROJECT SUMMARY SHEET

Customers Name and Address_____

_____

_____

Customers Contact and Title: _____

Telephone #:_____

## STRATEGY OF ENERGY SAVINGS

| Measure Description | Measure Status (See notes) | Fuel Type Saved (See notes) | Energy Saved in kWh | Energy Saved in kW | Energy Saved in mmBTUs | Annual Dollars Saved | Estimated Costs for Implementation | Simple Payback Period (Years) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ | $ | |
| | | | | | | $ | $ | |
| | | | | | | $ | $ | |
| | | | | | | $ | $ | |
| | | | | | | $ | $ | |
| | | | | | | $ | $ | |
| **TOTAL:** | | | | | | $ | $ | |

Notes: Please fill in applicable boxes.

Measure Status: Implemented (I); Recommended (R); Further Study Recommended (RS).

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

# NYSERDA RCx Deficiency Worksheet - Example

| **Deficiency Number:** | **1** | | **Annual kWh saved** | **kW saved** | **Annual mmBTU's saved** | **Annual Dollars saved** | **Implementation Cost** | **Fuel Type Saved** | **Simple Payback** | **Supporting calculations found on page:** |
|---|---|---|---|---|---|---|---|---|---|---|
| **System:** | **HVAC** | | *8,200* | *0* | *200* | *$3,384* | *$250* | *Elec. & Gas* | *0.1 Yr* | *appendix c, page 56* |
| **Component:** | **AHU #12** | | **Other Notes: Damper appears to be stuck as a result of a control wire breaking off of the control motor.** | | | | | | | |
| **Location:** | **East Wing over Conference Room** | | | | | | | | | |

| **Deficiency Description** | **Effect on system operation** | **Corrective Action** | **Benefit(1)** | **Recommend Corrective action?** |
|---|---|---|---|---|
| *Air damper stuck in open position* | *Over ventilation and cooling of offices 8-12* | *repair and adjust damper* | *E, C, O* | *Yes* |

One worksheet is to be competed 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 (Appendix B-3).

(1) E= Improved energy efficiency; C= Improved comfort; M= Reduced maintenance; O= Improved operation efficiency

**Appendix C-1**

## CHP & Renewable Generation - Eligible Projects

Projects proposing to evaluate the technical and economic feasibility of the following are eligible:

Combined Heat and Power (CHP) Systems that simultaneously provide thermal and electrical and/or mechanical energy at a host site. The system should intend to meet the requirement for efficient CHP, defined by the NYSERDA Enhanced Commercial Industrial Performance Program System Manual as "applications of technologies that achieve an average, annual, fuel-conversion efficiency meeting or exceeding an efficiency of 60%."

In addition, the CHP system should intend to meet the following performance criteria:

- Sum of all usable thermal energy products must constitute at least 20% of the technology's total usable energy output, and
- Sum of all usable power must constitute at least 15% of the technology's total usable energy output.

Renewable Generation Systems that generate electricity from the following Customer Sited Tier of the Renewable Portfolio Standard eligible resources:

- Solar
- Anaerobic digester gas (ADG)
- Wind

Renewable Generation Systems that generate electricity from the following renewable energy sources:

- Biomass
- Land fill gas (LFG)
- Hydropower

In addition, renewable generation systems should intend to meet the eligibility requirements of New York State Renewable Portfolio Standard (PSC Case 03-E-0188) for any of these energy sources.

The following are ineligible:

- Applications seeking assistance with evaluating systems for which the potential renewable generation capacity would be larger than 5 MW;

- Applications seeking assistance with evaluating systems using highly processed or treated materials (including materials painted, or pressure treated with chromium, chlorine and arsenic bearing compounds);

- Applications seeking assistance with evaluating systems using Municipal Solid Waste;

- Applications seeking assistance with evaluating studies for which the potential CHP system would be larger in total prime mover capacity than 50 MW; and

- Applications seeking assistance with evaluating CHP systems for which less than 75% of the electricity generated would be used on-site.

Please note that other NYSERDA programs have limited installation funds available for certain combined heat and power, hydropower, ADG, landfill gas, solar, biomass and wind projects. Solicitations are released on a periodic basis. Please visit www.nyserda.org/funding for more information. **NOTE: Funds are available for CHP projects in the Con Edison service territory under PON 1101 Enhanced Commercial Industrial Performance Program.**

**Appendix C-2**

**Required Information in a Detailed CHP Feasibility Study**
**(Study cost greater than $10,000)**

The following information must be included in detailed CHP feasibility studies, in addition to general final report requirements in Appendix B-2.

**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 must be provided with the DEA. Assumptions used in the model should be clearly indicated in the DEA.

- 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 lower heating value.
    - 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 natural gas is used as the fuel for the proposed CHP system, the pressure and availability of gas must be described in the study. If fuel oil is to be used as the fuel for the proposed CHP system, system cost must include tank construction requirements.

- An operational sequence must be included that specifies the control system to be used along with a discussion of its integration with other on-site control systems and who will have responsibility for system operation.

- A project schedule that includes durations for design (engineering & architectural), utility coordination and review, permitting (environmental and construction), construction, start-up, and commissioning must be provided.

**Economic Evaluation**

- Electricity, fuel, operation, and maintenance costs before and after the proposed installation 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.
- Operational costs must include any impact to the customer's energy tariffs.
- Maintenance costs can be listed in $/kWh, but must also be annualized. This should include M&V costs.
- Capital costs must include:
- Equipment purchase and system installation
- Structural (new building, existing building modifications, etc)
- Interconnection and Utility Connection (construction & utility fees)
- Electrical distribution system changes
- Rigging
- Permitting
- Design fees
- Commissioning

**Maintenance**

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

- An estimate of downtime that would occur due to routine maintenance must also be included.

**Tariff Impacts and Interconnections**

- In addition to inclusion in the economic analysis described above, a detailed description of the relationship between the proposed CHP facility and the Customer's existing 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 for if and how the system will be properly interconnected to the grid, natural gas pipelines and/or the Con Edison steam system must be presented.

**Permitting**

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

**System Reliability and Availability**

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

## Required Information in a Preliminary CHP Feasibility Study
## (Study cost less than $10,000)

The following information must be included in preliminary CHP feasibility studies, in addition to general final report requirements in Appendix B-2.

### 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 a daily basis, must be provided with the final report. Assumptions used in the model should be clearly indicated in the final report. Thermal demands must be shown for the specific heat sinks to be satisfied by the CHP system.

- Preliminary type and rating of and energy balance around the prime mover. 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.

- Description of the proposed system must include a floor plan showing equipment location.

### 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.

- Operational costs must include any impact to the Customer's energy tariffs.

- Maintenance costs can be listed in $/kWh, but must also be annualized.

- Capital costs must include any necessary one time costs such as permitting, interconnection or electrical distribution system changes.

### 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.).

### Tariff Impacts and Interconnections

- Site-specific grid interconnection issues and costs must be discussed. A brief, clear plan for if and how the system will be properly interconnected to the grid. In the absence of such a plan, natural gas pipelines interconnect issues must be presented.

### Permitting

- A brief description of the necessary environmental and building permits that the Customer needs to obtain must be provided.

**Appendix C-4**

## Required Information in a Renewable Generation Feasibility Study

The following information must be included in renewable generation feasibility studies, in addition to general final report requirements in Appendix B-2.

### System Information

- Energy use profiles must be reviewed in detail to accurately determine the level of temporal coincidence between availability of the renewable resource and electrical loads to be satisfied by the system. An electronic copy of a spreadsheet-based model that describes system operation on a daily basis must be provided with the final report. Assumptions used in the model should be clearly indicated in the final report. Heat and fuel availability profiles must be illustrated for variance by month for one year and by hour on a peak and minimum demand day.
- The type and rating of the generating equipment.
- The description of the proposed system must include a floor plan indicating equipment location. Any structural modifications must be included in the capital cost of the system.
- 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 controls systems and who will have responsibility for system operation.
- A construction schedule that includes engineering, permitting, 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.
- Operational costs must include any impact to the Customer's energy tariffs.
- Maintenance costs can be listed in $/kWh, but must also be annualized.
- Capital costs must include necessary one time costs such as permitting, interconnection, or electrical distribution system changes. Capital costs must also include any structural changes required to house the prime movers.

### 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. 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 system and the Customer's existing energy tariffs must be included. Contract dates and dates of potential tariff rule changes must be included. In the case where such future changes would significantly impact the economics of the project, sensitivity analysis must be presented assuming the potential tariff or contract changes occurred.
- Site-specific grid interconnection issues and costs must be discussed. A brief, clear plan for if and how the system will be properly interconnected to the grid must be presented.

### Permitting

- A brief description of the necessary environmental and building permits that the Customer needs to obtain must be provided. Estimates of permitting costs must be included in the economic analysis. In addition, a schedule of realistic permit receipt dates must be included in the schedule described above.

### System Reliability and Availability

- The reliability and availability of the 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

## CHP & Renewable Generation Evaluation Criteria

**Combined Heat and Power Scopes of Work must include steps take to:**

- Analyze the thermal and electric usage on an hourly profile per year.
- Provide the thermal and electrical profiles using engineering analysis or metered data for at least a year (Metered data is preferred.)
- Identify the tariff impacts that would result from installation of the system.
- Provide a schematic of the electrically interconnect of the proposed system.
- Identify the necessary permits for the proposed system.
- Describe the engineering analysis that will be used to identify the match between the electric and thermal load profiles at the site. There must be at least a potential for a 60% Fuel Conversion Efficiency.
- Also identify the generating technologies that would be used. Only reciprocating engines, turbines, microturbines and fuel cells are to be considered. Proposals evaluating fuel cells and microturbines also need to evaluate reciprocating engines.

**Wind Generation Studies Scopes of Work must include:**

- A preliminary analysis of existing wind data such as the New York Wind Map.
- A print out of the wind map for the proposed site.
- An estimate of the average wind speed (must be a minimum of 13.4 mph at 70 meters).
- An estimate of the power generation potential (must be a minimum of 100 KW).
- An estimate of the simple payback (must have the potential for a payback of no more than 15 years).
- The steps that will be taken to collect wind data for a minimum of 3 months, either through an existing meteorological tower or installation of a tower.

**ADG Scopes of Work must include:**

- A description of organic material to be used (manure, agricultural residues and biomass, industrial organic wastes (i.e., food wastes), and municipal wastewater)
- A description of any currently operating digester, and the BTU content of the digester gas, the quantity of the digester gas produced, the contaminants in the digester gas, and the percentages of the contaminants.
- If the installation of a digester is part of the project, the estimated BTU content of the digester gas, the estimated quantity of the gas, and the estimated contaminants in the digester gas.
- A copy of the preliminary economic analysis using existing data such as the EPA FarmWare program , including the power generation potential (must be a minimum of 250 KW), the energy generation potential, simple payback.
- A description of the estimated need to treat the digester before the prime mover.

**Requirements for PV Systems Scopes of Work must include:**

- A preliminary analysis using the NYSERDA Clean Power calculator, including a print out of the results
- An estimate of the power generation potential (must be a minimum of 10 KW), energy generation potential, and simple payback (must have the potential for a payback of no more than 15 years).

**Additional Requirements for All Projects**

- The scope of work and related estimates must demonstrate an economically justified project.
- The cost of the study must be reasonable and must contain a detailed budget broken out by task that shows hours and dollars allocated to each task of the scope of work
- Consultant staff allocations and schedule must be sufficient to meet the objectives of the scope of work cost effectively.
    - Involved consultant staff, contractors, sub-contractors, etc. must have had at least three completed and related projects.

**Appendix D**

# Peak-Load Curtailment Plan Requirements

Peak-Load Curtailment Plans provide a protocol to curtail electrical demand (kW) upon a call from the NYISO. The intent of the Peak-Load Curtailment Plan component of this solicitation is to encourage Service Providers to increase the number of facilities registering for the NYISO Peak-Load Installed Capacity/Special Case Resource Program (ICAP/SCR), to provide a more thorough evaluation of load curtailment opportunities, and to increase the rate of facility participation when called upon to curtail load.

Participation in this component of the program requires; 1) a Peak-Load Curtailment Plan; 2) engineering calculations demonstrating that the curtailable load registered with the NYISO is technically and reasonably feasible; 3) proof of registration with the NYISO's ICAP/SCR program; and 4) copies of the previous year of electrical bills for the applicant facility.

Please review the Limitations Section (Section II) of this solicitation carefully prior to submitting an application. Incomplete, inappropriate and ineligible applications will be returned to the Service Provider. 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.

**PEAK-LOAD CURTAILMENT PLAN REQUIREMENTS AND FORMAT**

- The first page shall be an Executive Summary. It should outline the intent of the document and include, at a minimum, the name and location of the facility, a brief description of the equipment and operations within the facility.

- The main body of the Peak-Load Curtailment Plan shall provide a separate section for each load curtailment measure. Each section shall detail the step-by-step actions to be taken when receiving a request from the NYISO to curtail load, along with a projection of the associated curtailed load resulting from those actions, a description of the anticipated impacts on comfort and/or operations.

- Appendix A to the Peak-Load Curtailment Plan must include:
    - A brief description of the baseline conditions of the Facility as a whole and also specific to the equipment involved in the proposed measures. This should include documentation of methods and assumptions used to determine baseline conditions. A Facility baseline that is representative of normal operating conditions should be developed to reflect the time period of proposed curtailment.
    - calculations demonstrating the amount of electrical demand (kW) curtailed for each action (curtailment measure) in the main body of the document, including pre- and post-implementation electric demand for all affected equipment, measured in kW, along with electric use, measured in kWh.

- Appendix B to the Peak-Load Curtailment Plan shall be proof of registration of the load with the NYISO. This can be in the form of the email spreadsheet from the NYISO noting the registration number, the corresponding curtailable load and associated information. An electronically forwarded screenshot of the email may be required at NYSERDA's discretion.

- Appendix C to the Peak-Load Curtailment Plan shall be comprised of copies of the facilities electrical bills for the previous year.