2017 Technical Data Requirements for Demand Management Program 2.0

To process your application, the Demand Management Program requires an engineering analysis to substantiate the peak demand reduction and energy savings. The Program also requires detailed estimated installation cost data. The following section is organized by measure type and summarizes the project eligibility criteria, baseline data requirements, and minimum information that should be included in the scope of work and submitted in the application package. This document is applicable to projects installed in 2017. Requirements for projects planned to be installed in 2018 and 2019 may change.

On-Peak Hours – Required hours of reduced load as defined in the program Application. For the purpose of modeling energy use and demand reduction of weather dependent measures, this condition typically occurs at a dry bulb temperature of 91°F and/or wet bulb temperature of 75°F.

Off-Peak Hours – All hours not considered On-Peak Hours, as defined above.

Peak Demand Reduction (kW) – The average peak demand reduction realized during On-Peak Hours; kW reduction estimates will depend on the measure type, measure operation, and level of data available. In the event that no On-Peak hours occur in a given year, results will be modeled using the conditions listed above.

Cost Estimate Requirements

To facilitate project cost estimate review, each Applicant must provide the following, separated by measure type:

1. A detailed breakdown of the project cost, using a format such as AIA G703[1]. While this exact form is not required, project cost should be broken down to at least the level of detail shown on this form.
2. Include manufacturer or distributor quotes or estimates for major pieces of equipment that contribute a significant portion of the project cost.
3. Include a narrative describing the scope of the project and summarizing the major elements of the proposed cost including those above as well as:
    a. Installation of the measure-specific equipment (outlined below)
    b. The basis for assumed labor rates
    c. Controls (labor and materials)
    d. Structural (labor and materials)
    e. Electrical (labor and materials)
    f. HVAC (labor and materials)
    g. Piping (labor and materials)
    h. Metering (labor and materials)
    i. Commissioning

In addition to what is listed above, specific requirements pertaining to project cost estimates for each project type are listed below.

[1] http://www.cptitle.com/docs/disbursement/g703.pdf

THERMAL STORAGE

The project must install new thermal storage capacity that shifts the electric cooling load from On-Peak to Off-Peak Hours. The thermal storage system must operate during all peak hours. Con Edison reserves the right to request the operation of the new system for measurement and verification purposes.

Peak demand reduction that is attributed to the installation of new chillers or controls tied to new thermal storage capacity will be eligible under those incentive categories.

The kW incentive will be based on the reduction during the On-Peak Hours, or modeled conditions if no such hours occur in a given year.

Project cost requirement: Include manufacturer or distributor quotes or estimates for the following major equipment:

a) Storage tanks
b) Chillers
c) Heat exchangers

Baseline requirement: Minimum of one summer month of pre- and post-installation equipment-level metering of energy consumption and demand at an average 15-minute interval, or comparable data as appropriate to verify the baseline conditions and post-installation performance and operation.

The minimum requirements that should be outlined in your detailed scope of work are the following:

- Project description
- Pre- and post-installation conditions
- Pre- and post-installation equipment make, model, and cooling capacity
- Operating hours
- Control/operation strategy
- Proposed savings calculations
- See also the minimum requirements listed in the Chillers, HVAC, and Refrigeration section

2017 Technical Data Requirements for Demand Management Program 2.0

BATTERY STORAGE

An eligible battery storage array must have a minimum round-trip efficiency equal to or greater than 70%. "Round trip efficiency" is based on the battery system's net round-trip AC-AC energy efficiency rating that requires losses and power consumed by the system's auxiliary components to be subtracted from the gross power output of the system. This is typically measured at the storage module's electric interconnection point.

Incentives will be based on the average output kW discharged over On-Peak Hours, provided at least 50% of the incentivized battery capacity is discharged continuously during all On-Peak Hours. The output kW is the actual kW, or net alternating current real power, discharged by the battery system, and it must take into account the system's depth of discharge, degradation, and efficiency losses. Current grid interconnection requirements prevent net metering with battery systems. Therefore, batteries can only be used to offset existing facility load. Additionally, baseline building load profiles will be reviewed to assess load shifting of equipment during the battery discharge periods. Reductions will be calculated net of any such load shifts and auxiliary support system loads.

Con Edison reserves the right to request the operation of the new system for measurement and verification purposes.

Project cost requirement: Include manufacturer or distributor quotes or estimates for the following major equipment:

a) Batteries
b) Electrical switchgear

Baseline requirement: Minimum of one summer month of pre- and post-installation interval meter and battery system charging data, or comparable data as appropriate to verify the baseline conditions and post-installation performance and operation.

The minimum requirements that should be outlined in your detailed scope of work are the following:

- Project description
- Pre- and post-installation conditions
- New equipment make, model, capacity (kW/kWh), and efficiency including auxiliary support equipment
- End of life disposal plan
- Proposed demand reduction calculations
- Parasitic loads
- Operating hours and cycling strategy

2017 Technical Data Requirements for Demand Management Program 2.0

DEMAND RESPONSE (DR) ENABLEMENT

This incentive is available to offset the cost of equipment or software that enables automated participation in a demand response program.

All generators must be authorized to operate as an economic dispatch source, as defined in 6 NYCRR Part 222, and must be utilized only as stipulated in the operating permit. Customers must comply with all local, state and federal regulations. Copies of the NYS DEC and NYC DEP (Department of Health in Westchester) permits for DR operation may be required.

Installing equipment that enables customers to participate in demand response programs via automated demand response (DR) for short-term curtailments of peak load is eligible. For the purposes of this program, "automated demand response" refers to DR enabled by physical hardware and control systems. Manual engagement (at the push of a button) of the DR system may be permitted, such that all subsequent controls are activated by the initial system engagement.

Design documents must clearly identify the peak demand reduction potential during DR events. Any equipment that will participate in a DR event must be listed on the application. All DR enablement measures that affect building cooling equipment (chillers, cooling pumps, cooling towers, fans, etc.) must perform a four hour test event on a hot day to be witnessed by the M&V team. During the test, the equipment listed in the application as being part of the DR enablement will be verified. Alternatively, performance during an actual demand response event may be used to determine the level of load reduction.

Con Edison reserves the right to request the operation of the new system for measurement and verification purposes.

Project cost requirement: Include manufacturer or distributor quotes or estimates for the following major equipment:

a) Generators
b) Generator upgrades
c) Electrical switchgear

Baseline requirement: One year of interval billing data before the project installation, post-installation interval data for the duration of the summer period. Existing equipment controls, consumption data, and equipment capacity must be verified. Proof of enrollment into an applicable demand response program will be required.

The minimum requirements that should be outlined in your detailed scope of work are the following:

- Project description
- Design documents
- Pre- and post-installation equipment and controls and scope detailing strategies to be used and equipment operating parameters
- Cut sheets and technical data for DR equipment and/or software
- Proposed demand reduction calculations
- For Control installations to enable DR participation:
- Project description including, but not limited to, list of points, function, and actual change in control strategies to be implemented
- Pre-installation list of BMS control points, if applicable

NEW CONTROL STRATEGY IMPLEMENTATION (BUILDING MANAGEMENT SYSTEM)

Incentives are available for new Building Management System (BMS) and control installations or substantial upgrades of existing control systems that are used to implement new control strategies.

Substantial upgrades include:

- The addition of new hardware required to implement a new control strategy in an existing control system
- An upgrade or replacement of an existing control system to newer version if the existing version was not capable of implementing the new control strategy

All control strategies expected to reduce peak demand must be listed in the application along with supporting calculations and baseline data.

Examples of typical control strategies that may have a peak demand reduction:

- Demand control ventilation
- Air or water side static pressure reset on an oversized system
- Cooling tower fan control across multiple cooling towers
- Chilled/condenser water pump control across multiple pumps in parallel

Project cost requirement: Include manufacturer or distributor quotes or estimates for the following major equipment:

a) Controllers, sensors, wiring, actuators, etc.
b) VFDs
c) Electrical equipment, transformers

Baseline requirement: Minimum of one summer month of pre- and post-installation equipment-level metering (of the equipment to be controlled) of energy consumption and demand, or comparable data as appropriate to verify the baseline conditions and post-installation performance and operation.

The minimum requirements that should be outlined in your detailed scope of work are the following:

- Project description including, but not limited to, list of points, function, and actual change in control strategies to be implemented
- Pre-installation list of BMS control points, if applicable
- Operating hours
- Proposed savings calculations

2017 Technical Data Requirements for Demand Management Program 2.0

CHILLERS, HVAC, AND REFRIGERATION

Eligible units must be a replacement of existing equipment. Switching from non-electric to electric cooling is not eligible. All HVAC equipment must exceed ASHRAE 90.1-2013 standards by at least 2% or fulfill the prescriptive program requirements, whichever is more stringent.

Project cost requirement: Include manufacturer or distributor quotes or estimates for the following major equipment:

a) Chillers
b) Air handling units
c) Heat exchangers
d) Other major elements

Baseline requirement: Minimum of one summer month of pre- and post-installation equipment-level metering of energy consumption and demand, or comparable data as appropriate to verify the baseline conditions and post-installation performance and operation.

The minimum requirements that should be outlined in your detailed scope of work are the following:

- Project description
- Pre- and post-installation locations
- Pre- and post-installation nominal tons
- Pre- and post-installation make and model
- Air or water flow rates for affected systems
- Pre- and post-installation kW/ton, COP, EER, or SEER
- Operating hours, sequence of operations, and operating set points/parameters
- Proposed savings calculations

FUEL SWITCHING: NON-ELECTRIC COOLING

For Con Edison Steam customers, see details and application from the Con Edison Targeted Steam AC program.

The following technical requirements apply to the replacement or addition of chillers powered by natural gas or self-generated steam. This includes electric to non-electric, non-electric to non-electric, and no chiller to non-electric.

In the case of electric to non-electric or new non-electric chillers without preexisting chillers, the demand reduction will be calculated from a code baseline or prescriptive program requirements, whichever is more stringent.

All non-electric chillers will be screened for efficiency. Where applicable, chillers must meet ASHRAE 90.1-2013 standards.

Project cost requirement: Include manufacturer or distributor quotes or estimates for the following major equipment:

a) Steam or absorption chillers
b) Heat exchangers
c) Other major elements

Baseline requirement: Minimum of one summer month of pre- and post-installation equipment-level metering of energy consumption and demand, or comparable data as appropriate to verify the baseline conditions and post-installation performance and operation.

The minimum requirements that should be outlined in your detailed scope of work are the following:

- Project description
- Pre- and post-installation locations
- Pre- and post-installation nominal tons
- Pre- and post-installation make and model
- Water flow rates for affected systems
- Pre- and post-installation kW/ton or COP
- Operating hours, sequence of operations, and operating set points/parameters
- Proposed savings calculations

2017 Technical Data Requirements for Demand Management Program 2.0

PROCESS EFFICIENCY AND IT/DATACENTER

Incentives are available to manufacturers and data centers that implement custom and site-specific applications of commercially available technologies that improve energy use and increase productivity or output.

Incentives will be calculated, when appropriate, based on a reduction in peak demand and energy usage per unit of production or workload. Code and/or standard practice considerations will be taken into account in cases of rapidly evolving technologies or load growth.

Project cost requirement: Include manufacturer or distributor quotes or estimates for the following major equipment:

a) Control systems
b) VFDs, fan motors
c) Electrical equipment

Baseline requirement: Minimum of one summer month of pre- and post-installation equipment-level metering of energy consumption and demand, or comparable data as appropriate to verify the baseline conditions and post-installation performance and operation.

The minimum requirements that should be outlined in your detailed scope of work are the following:

- Project description
- Pre- and post-installation conditions
- Cut sheets and technical data
- Operating hours
- Proposed savings calculations
- Production data (used to normalize energy use or variations in production)