New Jersey SmartStart Buildings® Program Guide

for

Commercial & Industrial (C&I) New & Existing Buildings

For Fiscal Year 2019

(7/1/2018 through 6/30/2019)

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Overall Program Description

New Jersey SmartStart Buildings® is a statewide energy efficiency program available to qualified commercial, industrial, institutional, government or agricultural customers who are planning to construct, expand, renovate, or remodel a facility, or to replace electric or gas equipment. Incentives are available for prescriptive measures or for custom measures that are selected and incorporated into the project to help offset the added cost to purchase qualifying energy-efficient equipment.

There are two types of incentives:

- **Prescriptive Incentives** are incentives where dollar amounts are fixed for specific categories of equipment, are offered where one-for-one, business as usual replacements are typical. The prescriptive applications are labeled by technology, such as lighting and HVAC, and defined as equipment most commonly recommended for energy efficient projects with well-established energy savings.

- **Custom Incentives** are offered for non-standard equipment, complex systems, and specialized technologies that are not easily addressed through prescriptive offerings. Customers are provided a discrete yet flexible application process with the ability to submit one or multiple applications for any size project. The transparency of incentives aids customers in making informed decisions while assisting energy efficiency professionals to better solicit a prospective project.

Routinely, the program adds, removes or modifies prescriptive incentives for various energy efficiency equipment based on national and local market trends, the development of new technologies, and changes in efficiency baselines. Note that on 9/21/2015, the State of NJ adopted the ASHRAE 90.1-2013 energy code for all commercial and industrial buildings. For Fiscal Year 2019, the program will utilize this code in determining performance requirements and incentive eligibility.

1. Target Market

The C&I New Construction and C&I Retrofit Programs target commercial, educational, governmental/institutional, industrial, and agricultural customers engaged in customer-initiated construction events including public school construction, other new building construction, renovations, remodeling, equipment replacement, and manufacturing process improvements. The Program offers incentives and technical support for both existing buildings and new construction. In addition, the Program may be used to address economic development opportunities and transmission and distribution system constraints. The Program is primarily geared towards the mainstream C&I market, as opposed to programs that target specialized markets such as the Large Energy Users Program, the Local Government Energy Audit Program, and the Direct Install Program.

Incentive and service offerings are tailored to influence market-driven events by acknowledging the customer's own initiative and the time-sensitive nature of these events. Market-driven construction events are outlined below:

- **New Construction and Additions** – Throughout the planning/design and construction stages of a project, critical decisions from an energy perspective are made regarding building design and components such as lighting systems, HVAC systems, energy-using equipment, etc.
- **Renovations** – If a building is to be "gutted" with replacement of the HVAC and lighting systems along with major modifications to the building shell.
- **Remodels** – Appearance upgrades that may include lighting changes, or a new configuration of an internal space, or alteration in mechanical/electrical systems to update appearance, or reconfiguration of space for a tenant or for safety/security reasons
- **Equipment replacement** – Equipment may be replaced at the time of a remodel/renovation, or at other times such as when it fails, becomes too costly to maintain, or becomes inappropriate for new uses.

2. Program Eligibility & Delivery

In order to be eligible for the program, applicants or customers must be contributors to the Societal Benefits Charge (SBC) and the construction project must be located within the service territory of at least one of New Jersey's seven regulated utilities; Atlantic City Electric, FirstEnergy/Jersey Central Power & Light, New Jersey Natural Gas, Elizabethtown Gas, Public Service Electric and Gas, Rockland Electric Company, and South Jersey Gas.

Projects located in areas where electricity is provided by a municipal utility are eligible for only those portions of the program that address the energy efficiency of natural gas equipment.

The program is delivered using consistent statewide eligibility criteria, measure lists, and a single set of program application forms.

Prevailing Wage Requirement

Projects with a contract threshold of $15,444 are required to pay no less than prevailing wage rate to workers employed in the performance of any construction undertaken in connection with Board of Public Utilities financial assistance, or undertaken to fulfill any condition of receiving BPU financial assistance, including the performance of any contract to construct, renovate, or otherwise prepare a facility, the operations of which are necessary for the receipt of BPU financial assistance. By submitting an application, or accepting program incentives, the applicant agrees to adhere to NJ Prevailing Wage Requirements, as applicable.

3. Prescriptive Measures

Prescriptive Efficiency Measure Incentives are based on incremental costs (i.e. the additional cost above baseline equipment) for the following types of measures:

- Electric Chillers
- Natural Gas Chillers
- Unitary HVAC Systems
- Ground Source Heat Pumps (Geothermal)
- Gas Fired Boilers
- Gas Furnaces
- Variable Frequency Drives
- Gas Fired Water Heating
- Gas Fired Water Booster Heating
- Tankless Water Heaters
- Select Premium Efficiency Motors
- Prescriptive Lighting**
- Lighting Controls**
- Performance Based Lighting (for existing buildings only)**
- Kitchen Hood Variable Frequency Drives
- Low Intensity Infrared Heater
- Boiler/AC Economizing Controls
- Refrigeration Controls
- Refrigerated Doors/Covers
- Food Service Equipment
- Custom Measures (see below)**

** indicates Pre-Approval is required prior to commencing work.

Refer to each measures' unique application for the efficiency criteria and the incentive structure. Section 3 contains the web links that route to the application forms for each measure. Food-service measures and incentives are contained in Table 3 of the Appendix.

For all Prescriptive measures, with the exception of Lighting and Lighting Controls, pre-approval is not required prior to installation, however, any customer and/or agent who purchases and installs equipment without program approval does so at their own risk. For Prescriptive Measures that do not require Pre-approval, the application must be received by the program within 12 months of equipment purchase as evidenced by material invoices, purchase orders, etc.

Incentives are available up to $500,000 per electric account and $500,000 per natural gas account per fiscal year. A customer is defined as a utility account.

4. Custom Measures Requirements

For more complex and aggressive efficiency measures, the process for calculating custom measure incentives is performance-based which may include a commissioning component. Incentives are evaluated and determined via an incremental cost and energy savings analysis to be provided by the customer or customer's authorized representative (vendor/contractor). Determination of the appropriate baseline (existing conditions and/or industry standard) will be reviewed on a case-by-case basis subject to program review and approval. The Program Manager has the discretion to determine the reasonableness of project costs for proposed technologies based on industry standards and other market research. Eligible electric and gas measures include lighting systems, HVAC systems, motor systems, large boiler systems, gas-engine driven chillers and other non-prescriptive measures proposed by the customer. Technologies not explicitly listed as custom (per the filing and/or Program Guide) will be reviewed for eligibility and are subject to approval at the discretion of the Program Manager. More details regarding this process can be found later in this document in the section entitled "C&I Construction Program Incentives" and non-binding guidance can be found in Appendix A to the Program Guide.

Baseline Energy Savings

Energy savings for each proposal will be determined on a case-by-case basis using such resources as: New Jersey baseline studies and other market research or experience of the New Jersey gas/electric utilities, or from utility/public program experience from other comparable jurisdictions.

The baseline for retrofit projects will be existing conditions. Custom measures for retrofit projects must exceed ASHRAE 90.1-2013 standards by at least 2% where specific standards exist. Where ASHRAE guidelines do not apply, measures will be required to exceed industry standards as determined by the Consortium for Energy Efficiency (CEE), EPA's ENERGY STAR, and/or others.

New construction and complete "gut-rehab" projects will use ASHRAE 90.1-2013 as the baseline for estimating energy savings. For new construction and major gut/rehab projects, baseline measure costs will be determined on a case-by-case basis, using the program's cost research, experience, and technical judgment.

Incentive Caps

The Program utilizes a performance-based approach to determine incentives for custom equipment. Established incentive caps for the program are the lesser of:

- $0.16/kWh and/or $1.60/therm based on estimated annual savings
- 50% of total installed project cost
- buy down to a one-year payback

Eligible projects must have a minimum first-year energy savings of 75,000 kWh for electric projects or 1,500 therms for gas projects. This requirement may be waived on a case-by-case basis if project savings

are within 10% of these required minimums. Projects with both electric and gas savings may be considered for incentives if either of the minimum savings requirements are met. Multiple smaller applications may not be grouped to meet minimum savings requirements. The program will allow a single facility with multiple utility accounts to submit a proposed custom project under one application

5. Application Requirements

Each type of Prescriptive Measure (see list in Section 5) has its own application that can be submitted directly via an on-line portal or printed and mailed to the program. In general, each application will have the same requirements which are:

- The customer, or an agent (contractor/vendor) authorized by a customer, must submit a properly completed application package which includes:
  - Completed application forms signed by the customer
  - Manufacturer spec sheets and supporting documentation of qualifications
  - Recent copy of a full utility bill from a participating utility (gas or electric depending on technology) showing Societal Benefits Charge. Customer listed on application must match name on the utility bill. If a utility account has not been established yet, the customer will be required to submit a utility bill prior to the incentive payment.

For Prescriptive Measures that do not require Pre-approval, the application must be received by the program within 12 months of equipment purchase as evidenced by material invoices, purchase orders, etc. A Tax Clearance Certificate is required along with material/labor invoice documentation.

Other Important Terms & Conditions

Energy efficient measures must be installed in buildings located within a New Jersey Utilities' service territory and designated on the customer's application. The customer must ultimately own the equipment, through an up-front purchase. Equipment procured by the customer via another program offered by New Jersey's Clean Energy Program or the New Jersey Utilities, as applicable, are not eligible for incentives through this program. Customers who have not contributed to the SBC of the applicable New Jersey Utility are not eligible for incentives offered from the program.

Refer to each Prescriptive Measure application form for additional terms and conditions specific to each technology.

Change in Customer Name/Payee after Pre-Approval

If a request is received to change the customer name or payee listed on a pre-approved application the following must be provided:

- Documentation from the approved applicant authorizing the change
- A new signed application and acknowledgement page with updated customer or payee name
- For name change – a utility bill in the name of the new customer
- For payee change – documentation from the original customer authorizing the change.

All name change requests are subject to program approval.

Tax Clearance Certificate

Effective May 2016, the State of New Jersey launched an online portal, which allows customers to apply for the Tax Clearance Certificate at no cost. The name of the customer listed on the certificate must match the customer name listed on the utility bill and the application. The customer tax ID listed on the application must agree with the tax ID listed on the Certificate. Certificates are valid for 180 days and must be valid on the date the program approves the incentive for payment.

6. Utility Account

Each utility account requires a complete, separate application. Projects for the same utility account and the same technology that are being done at the same time must be submitted on one application. Applications for measures that are self-installed by customers must be signed by the customer and not the sales vendor of the measure, however, the customer may elect to assign payment of the incentive to the sales vendor. For Custom application submissions only, customers may group utility accounts serving one facility under one application.

7. Deficient Applications

If an application package is incomplete or information is missing or deemed insufficient, a deficiency letter will be mailed to the applicant requesting additional information. The information or documentation requested on the letter must be received within 30 days of the date of the request. If additional deficiencies are still noted, there will be up to two additional notifications issued with the same time frames. If a customer fails to respond to a deficiency request within 30 days or exceeds the three attempts provided, the application will be cancelled. If cancelled, customers may re-apply under the program incentives and requirements in place at that time.

8. Pre & Post Inspections

The program reserves the right to conduct a pre-inspection of the facility prior to the installation of lighting, lighting control equipment, and custom measures. This will be done prior to the issuance of the approval letter. Work must not begin prior to formal program approval for these specific measure types. All projects are subject to post inspection to confirm equipment installation prior to payment.

Inspection protocols for Custom Measure projects will require 100% pre and post inspections for projects with an estimated incentive equal to and above $25,000. Inspections for projects with incentives below $25,000 will be sampled at random.

9. Expirations & Extensions

Pre-approved projects are given a one-year approval in which the proposed measure is to be installed and operational. When a project has expired the customer will have 30 days to either submit a request for an extension OR submit final project paperwork. Extension requests must be in writing from the customer and include the circumstances that led to the extension request, and the percentage of the project completed. Extension requests may be granted for a period no longer than six (6) months. The Program may provide up to two (2), six month extensions from the original approval expiration date. If the project has not started and the applicant is still interested in installing the equipment, the existing application will be cancelled and a new application must be submitted and approved prior to installation. The incentive amount will be based upon the program guidelines in effect at the time of the new submission. If no response is received within 30 days of expiration the project will be cancelled.

10. Program Dispute Resolution

Disputes, concerns, or complaints that arise will be addressed initially by the Program Manager or Program Staff at the point of contact. If resolution for whatever reason is not possible, there is a dispute resolution process backed by the NJ Board of Public Utilities.

For contractual disputes between a system owner and installer or registrant, the NJ Division of Consumer Affairs (DCA) is the point of contact and the agency has an online complaint form.

The program is designed to allow for participation by any third party contractor that meets the program requirements. One of the primary responsibilities of the program is to oversee the level of performance of the contractors that participate in the program. There are BPU approved contractor remediation procedures that will be followed if a contractor is found to violate program procedures and rules or consistently violates program requirements which may include being barred from participating in the program.

11. Call Center Support

New Jersey's Clean Energy Program operates a call center staffed weekdays between 8 AM and 7 PM. The phone number is 866-NJSMART. The call center is trained in answering general questions about the program and application processes. It also provides specific information pertaining to an application.

12. Program Website Link

This link routes to the overall NJ SmartStart program homepage: NJCleanEnergy.com/SSB

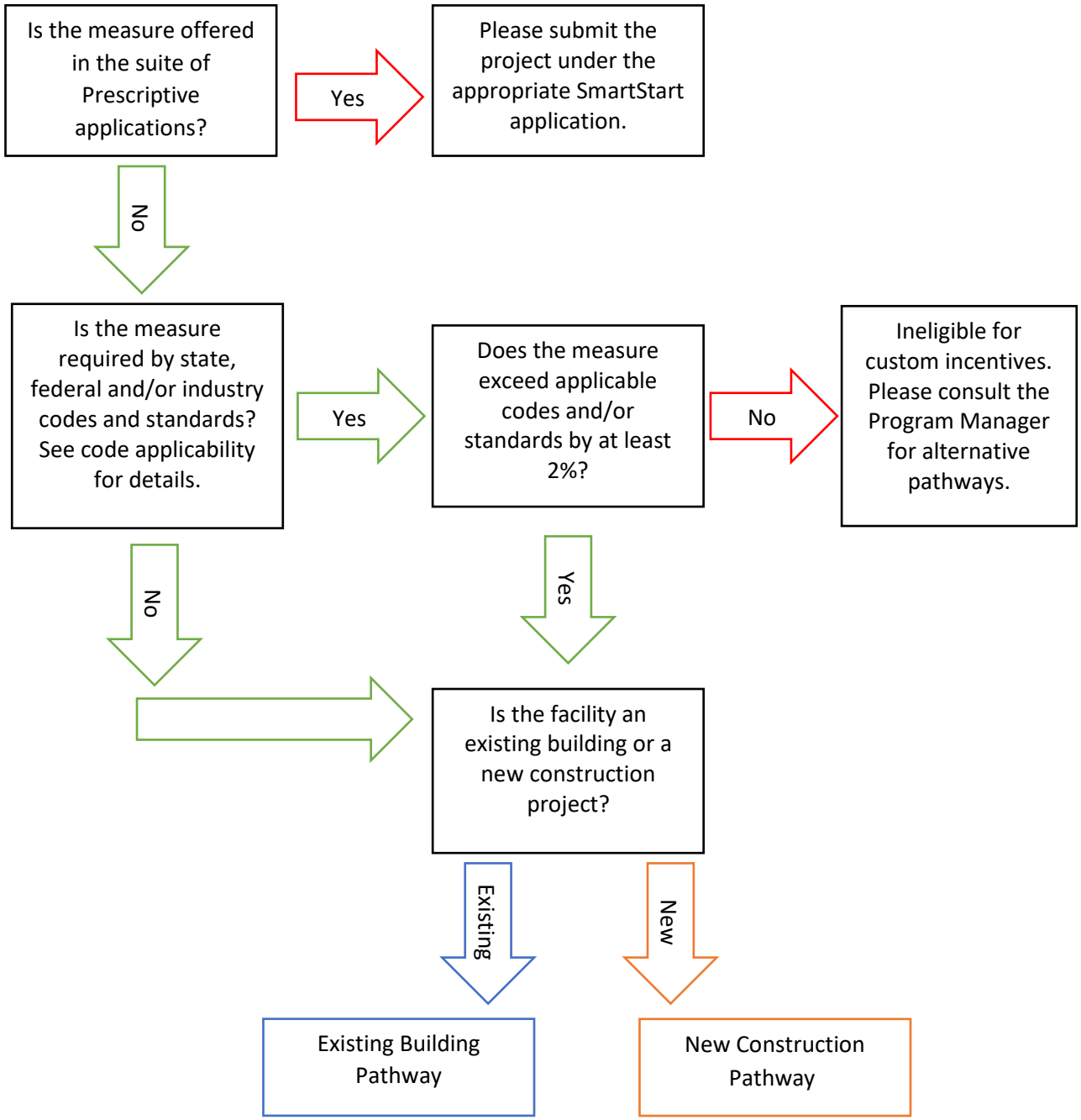
13. Incentive Rates

Current incentive rates and requirements for each measure may be found on their respective forms posted on the program website.

The incentives identified may be reduced with the approval of the Office of Clean Energy.

Appendix A: Custom Measure Guide

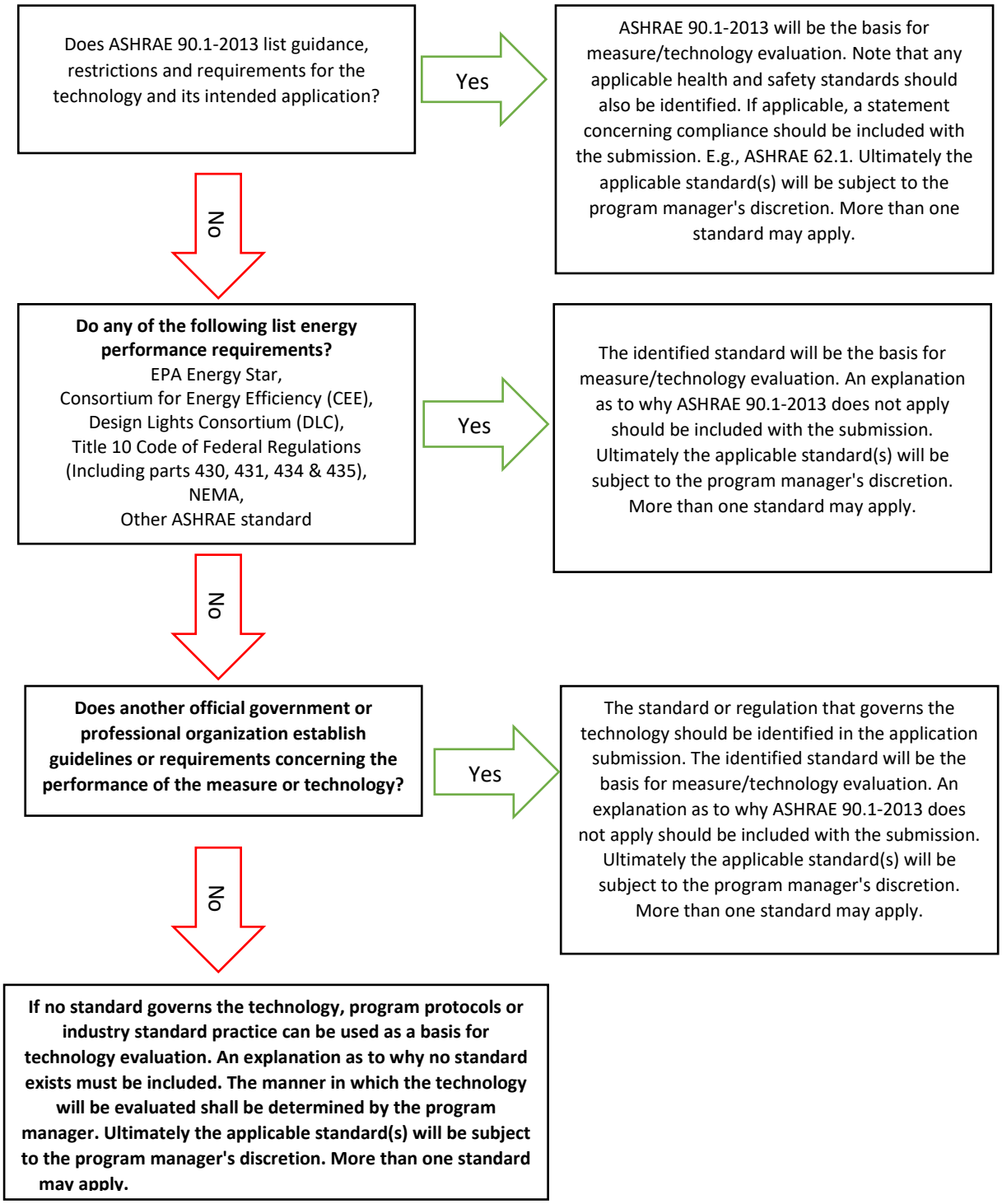
Overview



	Existing Building Pathway			New Construction Pathway
Situation Type	Existing Building Situation A	Existing Building Situation B	Existing Building Situation C	New Construction
Situation Description	Measure involves new equipment, to be installed in an area where a gut-rehab or addition to an existing building.	Measure involves a retrofit of new equipment onto existing equipment as an energy efficiency or control measure.	Measure involves new equipment, to replace or supplement existing equipment.	Construction of a new building, where energy efficient equipment will be installed.
Common Example	New boiler not covered or excluded by the standard pathway.	VFD retrofit not covered or excluded by the standard pathway.	New computer room air conditioning unit.	Building Automation System
Program Baseline for Energy Savings	ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.	Existing conditions may be used. In instances where the measure or its components are required by code, the baseline shall be ASHRAE 90.1-2013 or others as applicable. See code applicability for details.	ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.	ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.

	Existing Building Pathway			New Construction Pathway
Proposed Energy Consumption by Measure	Consumption shall be with measure implemented over conditions & requirements specified in ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.	Measure consumption shall be calculated with measure implemented over existing conditions. In instances where the measure or its components are required by code, the consumption shall be calculated in accordance with Situation A.	Consumption shall be with measure implemented over conditions & requirements specified in ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.	Consumption shall be with measure implemented over conditions & requirements specified in ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.
Program Baseline Cost	The baseline cost would be the equipment and installation cost of an entire system compliant with ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.	Typically, the baseline cost is zero. Special circumstances may be reviewed or considered by the program manager.	The baseline cost would be the equipment and installation cost of an entire system compliant with ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.	The baseline cost would be the equipment and installation cost of an entire system compliant with ASHRAE 90.1-2013 and/or other standards as applicable. See code applicability for details.
Program Proposed Measure Cost	This would include the cost of equipment and installation to implement the measure only.	This would include the cost of equipment and installation to implement the measure only.	This would include the cost of equipment and installation to implement the measure only.	This would include the cost of equipment and installation to implement the measure only.

Code Guidance



Specific Measure Guidance: Standards and Calculations

Measure Description	Standard that most likely applies	Typical Format/Methodology of Supporting Calculations
VFD in specialized application	Will vary upon application. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	The savings basis is usually a change from a constant speed/inefficient load profile to a more efficient load profile. Fan or pump affinity laws are typically employed. Common key variables are horsepower controlled, motor and drive efficiencies, plant production and/or run hours.
Large Boilers: Comfort	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Weather based analysis should be employed. Typical formats include bin-style analysis or HDD analysis. Alternative approaches include using the NJCEP Program Protocols.
Large Boilers: Industrial or Mixed Usage	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Weather and/or process load based analysis. Typical formats include bin-style analysis or HDD analysis. Alternative approaches include using the NJCEP Program Protocols.
Non-Standard Lighting Fixtures and Retrofit Kits	ASHRAE 90.1-2013, Design Lights Consortium (DLC), and/or Energy Star. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	The product must be Design Lights Consortium (DLC) or Energy Star listed. The product category must not be offered on the Prescriptive Lighting application. A line-by-line style energy savings calculation must be used. The document must have sufficient detail to perform a site inspection. The savings calculation must list existing and proposed fixture wattages, quantities, operation hours and locations. A lighting level calculation (not measurement) must be provided for representative sample areas for pre-retrofit and post-retrofit conditions.
Non-Standard Lighting Controls	ASHRAE 90.1-2013, Design Lights Consortium (DLC), and/or Energy Star. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	The control system must be Design Lights Consortium (DLC) listed. The system must offer a greater level of control than that prescribed by ASHRAE 90.1-2013. The baseline will typically be existing conditions for retrofit, or ASHRAE 90.1-2013 for new construction, subject to program manager discretion.

Measure Description	Standard that most likely applies	Typical Format/Methodology of Supporting Calculations
Refrigeration: Controls	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	The measure must not be a prescriptive measure, and must exceed ASRHAE 90.1-2013. Typical relevant sections include 6.4.5, 6.4.6, and 6.5.11. Analysis format will vary depending upon the control, however bin analysis should be employed when the affected system's performance is weather dependent.
Refrigeration: Racks/Compressors	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	New system must meet requirements of ASHRAE 90.1-2013 Section 6.5.11. Baseline shall be an equivalent system compliant with this section. Bin analysis or energy modelling should be employed to simulate system performance.
Computer Room Air Conditioners	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	New system must meet requirements of ASHRAE 90.1-2013. Refer to table 6.8.1-11. Baseline shall be an equivalent system compliant with this standard. Bin analysis or energy modelling should be employed to simulate system performance.
Insulation: Piping	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	A heat loss calculation shall be used. The baseline for savings shall be ASHRAE 90.1-2013. Refer to section 6.8.3, 6.4.4.1.3
Insulation: General Building Envelope	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	A heat loss calculation shall be used. Calculations for exterior walls shall employ bin analysis or building modelling. The baseline for savings shall be ASHRAE 90.1-2013.
Process Chiller	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Bin analysis or energy modelling.
VFD: Chiller Compressor	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Bin analysis or energy modelling.

Measure Description	Standard that most likely applies	Typical Format/Methodology of Supporting Calculations
VFD: Condenser Water Pump	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Bin analysis or energy modelling.
HVAC: Variable Refrigerant Flow (VRF)	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Bin analysis or energy modelling. The baseline system shall comply with ASHRAE 90.1-2013. Only systems with a ratio other than 1:1 of condensing units to evaporators will be considered. See table 6.8.1-10.
HVAC: Energy Recovery	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Bin analysis or energy modelling. The baseline system shall comply with ASHRAE 90.1-2013 for new systems. See section 6.5.6.
HVAC: Demand Control Ventilation	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Bin analysis or energy modelling. The baseline system shall comply with ASHRAE 90.1-2013. See section 6.4.3.8.
Building Automation Systems (BAS)	ASHRAE 90.1-2013. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	An energy model will be expected to accurately model complex systems. Simpler systems may employ bin analysis where feasible. The baseline sfor energy savings shall comply with ASHRAE 90.1-2013.
VFD: CRAH or CRAC	Will vary upon application. *Ultimately the applicable standard(s) will be subject to the program manager's discretion.*	Bin analysis.

Specific Measure Guidance: Supporting Data

Measure Description	Typical Supporting Data: Baseline	Typical Supporting Data: Proposed
VFD in specialized application	Load profile supported by plant/facility data. Plant production in annual units produced.	Data used to support expected load profile. Projected annual production.
Large Boilers: Comfort	Facility type, hours of operation, occupancy rate	Expected occupancy rate or expected changes in hours of operation
Large Boilers: Industrial or Mixed Usage	Facility type, hours of operation, occupancy rate, consumption of relevant process equipment served by the boiler	Expected load profile, expected changes in baseline inputs
Non-Standard Lighting Fixtures and Retrofit Kits	Inventory of existing fixtures. Existing fixture wattages supported by documentation, or program protocol values. Hours of operation for the building and each area as applicable.	Hours of operation for the building and each area as applicable.
Non-Standard Lighting Controls	Inventory of existing fixtures. Existing fixture wattages supported by documentation, or program protocol values. Documentation and/or data for hours of operation for the building and each area as applicable. For each control point and parameter, documentation supporting the values.	Anticipated hours of operation for the building and each area as applicable. For each control point and parameter, a calculation or profile for expected changes.

Measure Description	Typical Supporting Data: Baseline	Typical Supporting Data: Proposed
Refrigeration: Controls	Inventory of relevant equipment to be controlled. Data supporting hourly run times, setpoints, and control styles as relevant to the measure. Existing loading profiles where applicable.	Calculations or data supporting proposed hourly run times, setpoints, and control styles as relevant to the measure. Proposed loading profiles where applicable.
Refrigeration: Racks/Compressors	Site specific weather conditions . Data on run times and/or production numbers if process dependent	Site specific weather conditions . Data on run times and/or production numbers if process dependent.
Computer Room Air Conditioners	Existing IT load	If changes in existing IT load are anticipated, calculations or estimates of proposed IT load
Insulation: Piping	Inventory of piping to be insulated. Diameters, fluid temperatures, and usage type (HVAC, Service Water) should be indicated. System run hours.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided.
Insulation: General Building Envelope	Building occupancy hours, HVAC equipment schedules, inventory of existing insulation and shell construction description	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided.
Process Chiller	Process load documentation, facility operation hours, production figures. Existing load profile.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.

Measure Description	Typical Supporting Data: Baseline	Typical Supporting Data: Proposed
VFD: Chiller Compressor	Process load documentation, facility operation hours, production figures. Existing load profile.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.
VFD: Condenser Water Pump	Process load documentation, facility operation hours, production figures. Existing load profile.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.
HVAC: Variable Refrigerant Flow (VRF)	Facility operation hours, site specific weather data, facility type and description.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.
HVAC: Energy Recovery	For retrofits, existing load profiles and OA and SA data. Affected space types should be listed along with square feet served and occupant information.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.
HVAC: Demand Control Ventilation	For retrofits, existing load profiles and OA and SA data. Affected space types should be listed along with square feet served and occupant information.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.
Building Automation Systems (BAS)	An inventory of the controlled systems, and data points such as airflow rates and schedules should be collected. Existing load profile data.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.
VFD: CRAH or CRAC	Current control method and load profiles. IT load documentation. Facility operation hours, site specific weather data, facility type and description.	If changes in baseline operating parameters are anticipated, a calculation or estimation should be provided. Expected load profile.

Specific Measure Guidance: Supporting Equipment Documentation

Measure Description	Typical Equipment Documentation: Existing or Baseline	Typical Equipment Documentation: Proposed
VFD in specialized application	Motors/equipment to be controlled. Ancillary equipment tied to savings calculations. [E.g., if HVAC savings result than HVAC equipment datasheets].	VFD specification sheet. Any datasheets for new control systems used to facilitate measure should be included.
Large Boilers: Comfort	Existing boiler or heating system nameplates or datasheets	Proposed boiler datasheets
Large Boilers: Industrial or Mixed Usage	Existing boiler or heating system nameplates or datasheets. Datasheets and/or nameplates of relevant process equipment.	Proposed boiler datasheets
Non-Standard Lighting Fixtures and Retrofit Kits	Ballast photographs, lamp photographs. Program protocol fixture wattages can be used as an alternative.	Product specification sheet(s). DLC or Energy Star qualified product listing(s).
Non-Standard Lighting Controls	Ballast photographs, lamp photographs. Program protocol fixture wattages can be used as an alternative.	Product specification sheet(s). DLC qualified product listing(s).
Refrigeration: Controls	Nameplate photos and performance data sheets of the equipment to be controlled and for equipment that contributes to interactive savings (e.g., refrigeration compressors)	Proposed control system specification sheets/ catalog pages.

Measure Description	Typical Equipment Documentation: Existing or Baseline	Typical Equipment Documentation: Proposed
Refrigeration: Racks/Compressors	Specification sheets of baseline compressor(s).	Specification sheets of proposed compressor(s).
Computer Room Air Conditioners	Calculation detailing which ASHRAE unit/system types were selected.	Specification sheets of proposed unit(s).
Insulation: Piping	Boiler nameplate(s) and performance datasheets. Other heating/cooling equipment datasheets as relevant to the conditioned fluid flows. Datasheets for existing insulation.	Datasheets for proposed insulation.
Insulation: General Building Envelope	HVAC equipment datasheets and nameplate photos. Building plans/layout detailing areas to be retrofitted.	Datasheets for proposed insulation.
Process Chiller	Existing chiller nameplate photo(s)and performance data sheet. Datasheets or nameplate photo(s) of equipment served by process chiller where applicable.	Proposed chiller performance data sheet.
VFD: Chiller Compressor	Existing chiller nameplate photo(s)and performance data sheet.	Proposed VFD data sheet.

Measure Description	Typical Equipment Documentation: Existing or Baseline	Typical Equipment Documentation: Proposed
VFD: Condenser Water Pump	Existing chiller nameplate photo(s)and performance data sheet.	Proposed VFD data sheet.
HVAC: Variable Refrigerant Flow (VRF)	Calculation detailing which ASHRAE unit/system types were selected.	Proposed equipment datasheet(s)/specification(s). AHRI certificates.
HVAC: Energy Recovery	For retrofits, existing HVAC nameplate photos and performance datasheets. For new systems, calculation detailing which ASHRAE unit/system types were selected.	Proposed equipment datasheet(s)/specification(s). AHRI certificates.
HVAC: Demand Control Ventilation	For retrofits, existing HVAC nameplate photos and performance datasheets. For new systems, calculation detailing which ASHRAE unit/system types were selected.	Proposed equipment datasheet(s)/specification(s). AHRI certificates.
Building Automation Systems (BAS)	Nameplate photos and performance data sheets of the equipment to be controlled and for equipment that contributes to interactive savings (e.g., refrigeration compressors)	Proposed equipment datasheet(s)/specification(s). AHRI certificates where applicable.
VFD: CRAH or CRAC	Existing CRAC/CRAH unit datasheets and nameplate photos.	Proposed VFD data sheet.