



Custom Project Cost Documentation Guide 2024-2025



Bonneville Power Administration

Custom Project Cost Documentation Guidelines

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1. INTRODUCTION

The purpose of this guide is to facilitate and streamline the submission of complete and appropriate cost documentation needed to support Bonneville Power Administration (BPA) energy efficiency projects. The project submittal process requires reporting eligible project cost data, including implementation costs, changes in Operation & Maintenance (O&M) costs, and non-energy impacts (NEIs).

This *Cost Documentation Guide* defines allowable costs under different project types, details the supporting cost documentation required, and provides example scenarios to provide guidance for BPA Staff, Customer Service Engineers, utility staff, third-party program support staff, and others who develop, review and approve custom projects.

1.1 USE OF COST DATA

Project cost data is collected through the design, procurement, and implementation phases to determine the project's¹ BPA incentive, to document eligible costs, and to ensure the project meets cost effectiveness criteria.

INCENTIVES

Custom energy efficiency project incentives are determined by energy savings and eligible project cost. The project incentive is calculated as BPA's payment rate, \$/kWh saved, up to the current maximum percent of the eligible project costs paid (e.g., 70%) as defined in the current *BPA Implementation Manual*². Limits on BPA reimbursements ensure that the costs and benefits of energy efficiency investments are shared between BPA and the end user.

COST EFFECTIVENESS

BPA is required to ensure the cost effectiveness of projects and energy efficiency measures (EEMs). As described in the BPA's Implementation Manual³ cost effectiveness is calculated using

¹ Custom projects can report combined cost as a whole building/total project that includes several different measures or list out individual measures. Practitioners will most often be conducting M&V on the custom project level, however in specific cases, M&V and cost documentation may be applied to individual energy efficiency measures within the project scope.

² BPA's Implementation Manual is posted at <https://www.bpa.gov/energy-and-services/efficiency/implementation-manual>.

³ BPA IM October 2023, Section 1.3

Total Resource Cost (TRC) as defined by the Northwest Power and Conservation Council Regional Technical Forum (RTF)⁴.

TRC is the method that utilities use to justify their investments to regulators and includes all costs and benefits associated with a measure, regardless of who pays for or receives them. TRC calculations take into account the upfront implementation costs and annualized costs over the life of the measure including changes in O&M, and any NEI's⁵. Fundamental to the TRC cost-effectiveness analysis, these costs are as important as energy savings for energy efficiency customers and implementers to document.

The TRC methodology also accounts for program administration costs and the avoided electrical energy costs. These costs, however, are determined and applied to TRC calculations by the program administrator, so should not be reported as project costs by energy efficiency customers and implementers when documenting project costs.

BPA'S ENERGY EFFICIENCY TRACKING SYSTEM (BEETS)

Eligible project costs vary by program, project type, and the selected baseline for the project as defined in the Measurement & Verification (M&V) Protocol Selection Guidelines⁶. Determining these parameters is the first step in any custom project and ultimately defines the cost data required for the project. Once the baseline is established, BPA staff, Customer Service Engineers, utility staff, third-party program support staff assist in developing the Custom Project Proposal (CPP) or Custom Report (CR) information which is submitted into BPA's Energy Efficiency Tracking System (BEETS)⁷.

After cost data is entered into BEETS, backup documentation on reported costs is provided to BPA. In all cases, the acceptability of cost data submitted for any given project is reviewed and approved by BPA staff as part of the review process of all CPP/CR submittals.

⁴ The Regional Technical Forum (RTF) (<https://rtf.nwcouncil.org/>) oversees quantification of energy savings estimates for the Pacific Northwest region.

⁵ Non-Energy Impacts (NEIs) are additional impacts from implementing energy efficiency measures beyond energy and demand savings. These are often called non-energy benefits (NEBs) because they are often benefits, but impacts can be either positive or negative.

⁶ BPA's *Measurement and Verification (M&V) Protocol Selection Guide and Example Plans*, December 2023

⁷ <https://www.bpa.gov/energy-and-services/efficiency/bpa-energy-efficiency-tracking-system>

2. CUSTOM PROJECT COST REQUIREMENTS

Per custom project requirements, custom energy efficiency projects will document and track eligible costs in order to receive project incentives. Custom project cost documentation is generally submitted twice during the custom project process: at both the Custom Project Proposal (CPP) and the Completion Report (CR) stages.

The sections below detail the cost documentation requirements at the CPP and CR project stages. Additional details related to identifying eligible project costs and specific documentation requirements are detailed throughout the remainder of this guide.

2.1 CUSTOM PROJECT PROPOSAL (CPP)

Submission of a CPP allows implementers to get constructive feedback on measure eligibility, cost eligibility, and proposed M&V methods prior to project implementation.

At the CPP stage cost documentation will generally consist of project estimates that detail the EEM scope and estimated associated costs. Supporting documentation at the CPP stage typically comes from a variety of different sources including (but not limited to):

- Contractor/vendor quotes or estimates
- Engineering estimates using RSMeans⁸
- Catalog pricing
- Project costs from similar projects
- Industry standards or cost guidelines (e.g., \$/sq. foot, \$/ton, etc.)

Most custom projects will require project estimates built-up from multiple sources. Some other cost documentation sources for the CPP stage may be acceptable with approval of BPA staff.

The CPP stage may also be the appropriate time for the implementer to collect any additional cost documentation needed for code or industry standard practice baselines required for new construction or replace on burnout project types.

2.2 CUSTOM PROJECT COMPLETION REPORT (CR)

The CR is submitted after project implementation and determination of energy savings are complete. The CR reflects the final and verifiable energy savings, eligible project costs, and other related project data. This submittal provides the final project costs and supporting documentation and can vary from those estimated in the CPP.

⁸ RSMeans (<https://www.rsmeans.com/>)

Project cost documentation submitted in the CR should reflect all eligible project costs incurred implementing the project. Documentation may include:

- Project invoices, marked as “Final” where possible.
- Data from work orders, time tracking systems, or human resource records for internal customer labor .
- Support documents for various implementation costs described in Section 0 (e.g., New Equipment, Contractor and Customer Labor).
- Support documents for determining applicable implementation costs from a larger invoice.
- Support documents for establishing baseline costs and calculating incremental implementation costs.
- Support documents for database certification or certification by external audits (see Section 0).

As noted above, the CR should include supporting documentation related to establishing baseline costs used to calculate incremental project costs where appropriate (see Section 4.2). In these instances, a short narrative justifying the baseline equipment selected should be provided. Since code baseline and industry standard practice baseline costs are generally theoretical, project cost documentation for these baseline conditions will likely consist of vendor quotes and other estimates similar to those collected at the CPP project stage.

3. PROJECT TYPES

This guide focuses primarily on project costs related to Custom Projects. However, Unit Energy Savings (UES), Standard Offer, Strategic Energy Management (SEM), and other programs may encounter similar project cost situations. Table 1 identifies the program, project type, and the associated project cost basis. This section details the different project types, while the following section defines the different project cost bases.

Table 1: Eligible Measure First Costs by Project Type

Program Type	Project type	Basis for Implementation Cost
Custom Projects	Retrofit – Early replacement (ER)	Total project cost
	Retrofit – Replace on burnout (ROB)	Incremental project cost
	New Construction/Major Renovation (NC)	
Unit Energy Saving (UES) / Standard Offer	Retrofit	Total measure cost set by program
	New Construction/Major Renovation	Total measure cost set by program
Strategic Energy management (SEM)	Commercial or Industrial SEM	No specific requirements
Specialty Programs	Energy Project Manager (EPM), Reconnector Transformer (RT), and Energy Smart Reserve	See program guidelines

3.1 CUSTOM PROJECTS

Custom projects are classified into three general project type categories:

- Retrofit – Early Replacement (ER)
- Retrofit – Replace on Burnout (ROB)
- New Construction/Major Renovation (NC)

The cost basis and associated required cost documentation varies for each of the categories.

Custom project costs are reported in BPA Energy Efficiency Tracking System (BEETS).⁹

Note: In BEETS¹⁰, Retrofit ER measures are categorized as “Retrofit,” while the last two categories, Retrofit ROB and NC, are categorized as “Lost Opportunity” measures. The reporting content in BEETS is also reflected by the Custom Program Calculator¹¹.

RETROFITS – EARLY REPLACEMENT (ER)

Custom retrofit projects, which replace existing equipment with remaining useful life of at least a year, are referred to as ER projects. ER projects replace equipment or systems that are functional, or where repairs extend the life of equipment beyond a year. These projects are implemented as part of discretionary changes, undertaken at least in part, to achieve increased energy efficiency.¹² For an ER project, the baseline will represent the existing equipment.

The cost basis for ER projects is typically total project costs assuming the following criteria are met:

- The existing equipment was still working, or can be repaired and maintained, and had remaining life of at least 1-year, and,
- the implemented project was not required due to new construction or a major renovation.

RETROFITS - REPLACE ON BURNOUT (ROB)

Custom retrofit projects, which replace equipment with no remaining useful life, are referred to as ROB projects. For a ROB project, the equipment is at or near (within one year of) the end of its useful life and repair is not reasonable, thus, the project is not optional but would have to be done based on the equipment condition. In these cases the project’s baseline equipment efficiency level must be consistent with any state or local mandates for new equipment.

ROB projects typically require using incremental project costs. Incremental costs are calculated by subtracting estimated code minimum, or industry standard practice costs, from the actual efficient-case costs, assuming the following criteria are met:

- Replacing equipment or systems with less than one year of remaining useful life, and,

⁹ BPA Energy Efficiency Tracking System (BEETS) is available through <https://www.bpa.gov/energy-and-services/efficiency/bpa-energy-efficiency-tracking-system>.

¹⁰ BPA’s Energy Efficiency Tracking System (BEETS) categorizes Early Replacement Measures as Retrofit (R) and Replace on Burnout and New Construction/Major Renovation projects as Lost Opportunity (L).

¹¹ The Custom Program Calculator is posted under “Custom Programs” at: [Document Library - Bonneville Power Administration https://www.bpa.gov/energy-and-services/efficiency/document-library](https://www.bpa.gov/energy-and-services/efficiency/document-library).

¹² RTF Operative guidelines 2020, Page 11

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- the equipment purchase or project is not required due to new construction or major renovation.

NEW CONSTRUCTION/MAJOR RENOVATION (NC)

Custom projects that fall under the NC category apply to the installation of new equipment where none previously existed, or where the majority of the existing equipment is being removed and a portion of the facility is replaced, resulting in requirements to meet new construction building codes. The project baseline for NC projects must be consistent with any state or local code mandates for new equipment.

NC projects use an incremental project costs basis, based on the difference between costs to implement hypothetical code minimum or standard industry practice baseline conditions and the actual cost of the project, assuming one of the sets of the following criteria are met:

- Project requires new construction, or,
- focus is expanded or renovated facilities, or,
- project intent is going from non-electric to electrification of load.

3.2 UNIT ENERGY SAVINGS (UES) / STANDARD OFFER

Unit Energy Saving (UES) measures define and document their typical costs during measure design and implementation. These projects are more uniform and the requirements for project costs documentation are defined by BPA and do not deviate from UES project to UES project with some minor exceptions (e.g., kWh saved/Unit). Standard measures may use a variable method to calculate project costs, although these are typically restricted by the program and carefully defined (e.g., customer segment, climate zone).

This cost guide could aid cost estimation and documentation during the planning process but is not intended for UES/standard offer implementers or vendors. BPA sets the specific requirements for cost documentation but invoices for new equipment are typically required.

3.3 STRATEGIC ENERGY MANAGEMENT (SEM)

Project costs are not expected to be reported for SEM projects where most measures implemented are low or no cost.” Any UES projects or custom projects implemented during the SEM performance period must document costs consistent with applicable program rules in order to report savings via those programs and costs should be reported according to their program guidelines. Since SEM projects focus on no-cost measures, participants may track their general

level of effort rather than specific costs. A project tracking workbook used in SEM¹³ which includes costs is available through BPA's Document Library¹⁴.

4. ELIGIBLE PROJECT COST TYPES

Implementation costs are the upfront costs required to deliver and install the project or EEM. Implementation costs will be documented for all projects and are reported as either total project costs or as incremental project costs depending on the project parameters.

Eligible project costs are either total or incremental implementation costs depending on the program, project type, and selected baseline as defined in the *M&V Protocol/Selection Guidelines*.

4.1 TOTAL PROJECT COSTS

Total project costs are used when the project baseline reflects the existing equipment operation and includes all of the upfront costs required to install the project/EEM. Total project costs include all equipment/capital costs and labor costs required to implement the energy efficiency project. In some cases, the efficiency project may be only a portion of a larger project. In these cases, only costs directly related to the energy efficiency project are eligible.

All potentially applicable categories of costs contributing to total project costs are defined in Section 0, and may include:

- Design and engineering services
- Building and construction permits or fees
- New equipment and materials
- Used equipment
- Contractor labor
- Customer labor
- Disposal costs
- Miscellaneous costs

Retrofit projects which are early replacement measures may claim total project costs of an energy efficiency project. This is because the total project cost to let a functional but less efficient piece of equipment continue to run is zero.

¹³ BPA's SEM calculator is available through https://www.bpa.gov/-/media/Aep/energy-efficiency/interim-solution-2-files/tt_v8_2_sem_04142022.xlsx

¹⁴ BPA's Document Library is through <https://www.bpa.gov/energy-and-services/efficiency/document-library>

EXAMPLE PROJECTS USING TOTAL PROJECT COSTS (TC)

TC Example: A 10-year-old single speed ventilation fan is always on during operating hours. The project will replace this fan with a more efficient fan with VFD controls and demand control ventilation capabilities. The existing fan still has remaining useful life and will be replaced by a piece of equipment that performs the same job more efficiently and is, therefore, eligible as an early replacement retrofit. All new equipment costs including the efficient fan, VFD, sensors, and demand controls are eligible along with their installation cost.

TC Example: A 20-year old gas-fired boiler is at the end of its useful life and must be replaced. The new boiler is a one-for-one replacement and is not incentivized by BPA. The project, however, includes adding VFDs on the hot water distribution pumps as a part of the project. In this case, only the costs of VFDs on the pumps are eligible projects costs, not the total project cost of replacing the boiler.

4.2 INCREMENTAL PROJECT COSTS

Incremental project costs are used when local code requirements or industry standard practice define the project's baseline conditions as determined by the project type. Incremental project costs are the upfront cost to install an energy efficiency project/measure minus the cost of the hypothetical installation of a code baseline equivalent, or a current industry standard practice approach, which represents the minimum required system or equipment efficiency.

Incremental Costs = Total Implementation Costs – Hypothetical Baseline Costs

Figure 1: Incremental Costs Equation

New construction, major renovation, and replace on burnout projects may only claim incremental project costs. Reported costs should reflect the incremental cost related to achieving increased efficiency (excluding any non-energy features) for the equipment.¹⁵ It is important to ensure the comparative cost analyses are based on fully equivalent scenarios.

The minimum required efficiencies are often prescribed by local codes and standards which act as the basis for determining savings and costs. These baselines are set as the minimum requirements of applicable codes or standards. If the project is a one-for-one end-of-life replacement, or if there are no applicable codes or standards, the baseline will be characterized by industry standard practices. In these projects, the practitioner needs to identify what would typically be installed. This should be based on what would normally be done on similar projects

¹⁵ The Implementation Manual uses the term incremental costs which in retrofit situations may be the full cost of measures where continuing the baseline conditions has zero cost.

based on subject matter experts. The details of these industry standard practices should be documented.

Incremental project costs may include the same categories of costs as total project costs, as noted above and detailed in Section 5. Incremental costs are typically positive, as actual costs to implement energy efficiency measures are generally more than hypothetical baseline implementation costs. However, there are rare instances where incremental costs are negative. These projects may result in zero incentives, yet the savings are still reportable and could be eligible for EPM payment incentives.

EXAMPLE PROJECTS REQUIRING INCREMENTAL COSTS (IC)

IC Example 1: The cost of an end-of-life replacement of an air-handling unit with a heat-recovery wheel as an efficiency measure would be compared to the cost to install an equivalent air-handling unit without a heat-recovery wheel to determine the incremental project costs. This typically requires multiple equipment bids which should differ only on components which correlate with higher efficiency (e.g., heat-recovery wheel) and should include the same non-energy features such as access features and premium finish materials.

IC Example 2: A facility installs heat pump water heaters to replace a burned-out water heater and demand control ventilation to existing air-handler. These measures are unrelated, but the electricians need to install new wiring for both. The partial costs for the wiring for the water heater and demand control ventilation may be documented separately or measure costs can be individually estimated with a side calculation since they are for unique measures, even though they are being installed by the same general contractor. The electrician's labor costs are a part of the eligible project costs, but these labor costs must be broken out for each measure.

DETERMINING INCREMENTAL COSTS

Determining incremental costs requires identifying the differences of the baseline scenario to the actual project, and quantifying those costs. The following options are available to estimate the cost of hypothetical new construction baseline buildings, processes, or equipment:

- Contractor and equipment supplier bids/invoices
- Cost estimating tools like RSMeans¹⁶ or BPA approved equivalent

¹⁶ RSMeans (<https://www.rsmeans.com/>) is a privately managed database of current construction cost estimates. DOE has a very detailed Cost Estimating Guide which describe best practices around cost estimation (<https://www.gao.gov/products/gao-20-195g>).

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- Benchmarking data like Database for Energy Efficiency Resources (DEER)¹⁷
 - Market studies from regional energy and efficiency organizations (e.g., RTF, NEEA, ETO)
 - Energy code tools
 - Technical reference manuals
 - US or state DOE reports

When approved by BPA, implementers may apply the 2.86% commercial new construction building incremental cost rule to the documented overall new construction cost. This approach is typically applied to projects which include comprehensive efficiency improvements over the baseline. A justification for this approach may include:

- A summary of costs by type (labor, design, materials etc.) and annotations justifying the 2.86% estimate or establishing a revised estimate.
- Supporting justification is required which may include descriptions of specific activities conducted (e.g., design scenarios modelled, charettes held) and systems and equipment impacted.

¹⁷ Database of Energy Efficiency Resources (DEER) Updates, California Public Utilities Commission (<https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency/database-of-energy-efficiency-resources-updates>)

5. CUSTOM PROJECT COST COMPONENTS

Not all costs are eligible to be included in total or incremental project costs, but many are. Some of the typical project costs are discussed in this section. The general requirement for costs is that they must be a result of pursuing energy efficiency above the baseline condition. If the costs would have occurred regardless of an energy efficient project, then they are likely not eligible.

The level of rigor in the documentation required should be commensurate between the overall cost of the project and level of savings achieved. **BPA reserves the right to request additional documentation and to reject costs that are not applicable to a project or deemed reasonable.**

5.1 NEW EQUIPMENT AND MATERIALS

Energy efficiency projects frequently require the purchase of new equipment and professional labor from vendor(s). When the costs are incurred, specifically for a BPA-funded energy efficiency project, these are part of the eligible project cost calculation. The minimum criteria for inclusion are that the new equipment is required for the efficiency project and that the costs are documented.

Generally, when a custom project is proposed the new equipment has not been purchased and therefore costs need to be estimated. Estimated costs are acceptable for proposals and should be updated with final costs and invoices in the custom project completion report. New construction projects may also use estimated costs for baseline measures in the custom project completion report. Table 2 provides examples of eligible and ineligible types of cost documentation related to new equipment and materials.

Table 2: Example Cost Types for New Equipment and Materials

Example Cost Type	Eligible	Ineligible	Related Sections
Invoices for the new equipment from a vendor	✓		
Estimate for new equipment from a vendor	✓		3.1, 4, 5.1
Invoices from a vendor for installation	✓		4.2
Estimates for the baseline equipment (vendor quote, RS Means)	✓		4.2
Estimates for the baseline installation (vendor quote, RS Means)	✓		4.2
Invoices for additional non-EE equipment		x	

Example Cost Type	Eligible	Ineligible	Related Sections
Invoices for work done unrelated to the measure installation		x	
Invoices for work done related to previous EE projects		x	

5.2 USED EQUIPMENT

Facilities may purchase previously used equipment when implementing an energy efficiency project. Invoices are required for the purchase of refurbished or used equipment, or any associated costs required for the used equipment (e.g., freight, taxes, cost of retrofitting, and cost of refurbishing). The value of used equipment furnished by the end user should include applicable devaluation or discounting, or an estimate for a comparable used item. Table 3 below provides examples of eligible and ineligible types of cost documentation related to used equipment.

Table 3: Example Cost Types for Used Equipment

Example Cost Type	Eligible	Ineligible	Related Sections
Cost to refurbish equipment to meet energy efficiency savings	✓		5.3
Retrofit kits	✓		5.2
Shipping and associated costs	✓		5.5
Repurchase of consumed parts	✓		5.5
Cost to install used equipment, whether newly purchased or previously owned by facility	✓		5.3
Parts unable to meet measure life requirements (e.g., 10 years for industrial custom projects)		x	
“As new” costs for original equipment or part(s) that are facility owned and are being re-used		x	

5.3 CONTRACTOR AND CUSTOMER LABOR

Eligible custom project costs could include internal labor or contractor labor required to develop and implement measure(s). Either internal or contractor labor costs that are directly attributable to the energy efficiency project are eligible project costs.

Documentation for **contractor labor** must include:

- Invoice(s) for any contracted external labor work associated with the development and implementation of the energy efficiency project are required.
- A description of services provided in relation to EE measure.

Documentation for **Internal labor** must include:

- Employee title, rate, and hours directly associated with the development and implementation of the project.
- A description of the project-related activities conducted.
- Internal customer labor rates can be the fully loaded cost of the employees.
- US Department of Labor prevailing wage rates associated with the Davis-Bacon Act.
- If the facility uses an internal hours/billing system, then an accounting summary of the hours associated with the project with dates can also be used.

Table 2 provides examples of eligible and ineligible types of cost documentation related to labor costs.

Table 4: Example Cost Types for Contractor and Customer Labor

Example Cost Type	Eligible	Ineligible	Related Sections
Internal or outsourced EE study and project scoping funded by the facility	✓		4.2
Internal or external engineering, design, and permitting	✓		4.2
Internal or external labor for measure installation	✓		
Commissioning installed measure	✓		
Internal or external M&V activities funded by the facility	✓		4.2
Internal labor specific to implementing the identified and approved BPA energy efficiency measures	✓		
Any external or internal engineering and design hours	✓		4.2
Commissioning (if not paid directly by the program)	✓		4.2
Program-funded commissioning		x	
Program funded feasibility study (for custom retrofit)		x	

Example Cost Type	Eligible	Ineligible	Related Sections
Efforts that are part of another program (i.e., SEM energy management team)		x	
Labor not directly part of implementing the EE measures (admin, management, janitorial)		x	
Activities related to the development or implementation of a different EE measure		x	
Energy Project Manager (EPM) program costs		x	

5.4 MISCELLANEOUS COSTS AND OTHER EQUIPMENT SITUATIONS

Facilities may incur miscellaneous costs while implementing energy efficiency projects. These costs may include anything not already addressed in this document. In some instances, only a portion of the cost is eligible (only costs that directly pertain to the identified EEMs and their costs).

One common example of miscellaneous costs which may be included as eligible project costs is any equipment purchased for intentional spares or to replace on site stores used to implement the project. These parts are eligible project costs when:

- Required by current industry standard or governmental regulation (ASHRAE, FERC, NERC, ANSI, etc.) that defines the need for redundancy (n+1, n+2, etc.).

Table 5 provides examples of eligible and ineligible types of miscellaneous costs.

Table 5: Example Cost Types for Miscellaneous Costs

Example Cost Type	Eligible	Ineligible
Permit fees	✓	
Rental equipment / Leased equipment related to EEM	✓	
Shipping/freight expenses	✓	
Sales tax, where paid	✓	
Metering equipment as warranted and used during the M&V phase	✓	
Equipment enclosures	✓	
Demolition/disposal expenses	✓	

Example Cost Type	Eligible	Ineligible
Salvage value (cost savings)	✓	
“Stand-by parts”	✓	
Replenishing parts from onsite stores	✓	
Maintenance contracts or additional equipment warranties		x
Any costs that would have been incurred regardless of an energy efficient measure or baseline measure being installed		x
Any non-energy related additions to the project scope		x
Duplicate common parts generally used in maintenance (e.g., filters) or parts that are considered “consumable” (i.e., used during the course of regular operation).		x
Duplicate parts purchased in order to receive discounts or for convenience to be placed in inventory.		x
Part(s) or sub-system is for additional features not necessary for energy savings		x

Other miscellaneous items which are eligible costs include:

- A custom manufactured part or sub-system that is required but regularly unavailable or typically associated with long lead times.
- The part(s) are small, commonly used items (i.e., conduit, wiring, bolts) related to operation of the EEM and the part(s) will be re-stocked once used for implementing the energy efficiency measure(s).
- The part(s) or sub-system that is required to keep the system operational during maintenance periods.

Note: Any used equipment sold by the customer should be treated as a credit and the ‘salvage value’ received shown as a negative project cost.

BPA technical staff can provide additional guidance on the eligibility of other types of unique, project specific costs.

6. PROJECT IMPLEMENTATION COST DOCUMENTATION REQUIREMENTS

Custom project cost data should be collected and summarized in a way that clearly documents the relevant projects costs and is easily reviewed by BPA staff. A complete cost documentation package includes two key components:

1. Project Cost Summary, including:

- Title and project information
- A simple description of the project type and the cost basis (when providing incremental project cost)
- Justification of cost adjustments (e.g., proration), unique cost situations, support for industry standard practice baseline cost estimates, and explanations for missing or alternative documentation as appropriate

When multiple costs are incurred, a cost summary table(s) listing each cost and indicating the related supporting document being submitted will be provided. The table should sum the total project costs included. Where incremental costs are calculated, the baseline and actual costs should be totaled separately.

-
- Table 6 below provides an example of a simple cost summary table for an early replacement project.

2. Copies of documentation supporting costs:

- Copies of the relevant cost documentation should be provided. These will include copies of invoices and/or other relevant documents. The supporting cost documentation should be marked up and annotated so that a reviewer can easily understand the scope and applicability of the project costs, and match the values included in the summary table.
- Sufficient justification must be provided to support inclusion of costs when supporting cost documentation is not available. BPA staff will have ultimate authority to accept or decline project costs without supporting documentation.

Table 6: Example Cost Summary Table for Early Replacement (ER) Retrofit

Cost Item	Eligible Project Cost	Description (e.g., invoice number, vendor, notes, etc.)	Documentation Type
Heat-pump (HP) Water Heater	\$9,850.00	For a new HP supplied by a vendor	ACMO invoice #1200
Miscellaneous hardware	\$325.50	Some miscellaneous fittings, parts, and piping	ACMO invoice #1200
Wiring	\$50.00	Onsite stores provided new electrical wires which will later be replenished	Accounting software summary
Installation Labor - Contractor	\$2,275.50	For installation of HP and repair of damaged piping	ACMO invoice #1200
Installation Labor - Internal	\$875.00	For installation of HP and repair of damaged piping	Summary of timesheets, employee pay rates
Disposal	\$225.00	Cost to dispose of old water heater and other waste	ACMO invoice #1173
Total	\$13,601.00		

Additional guidance for documenting specific cost situations is included below.

6.1 DOCUMENTING INCREMENTAL PROJECT COSTS

Projects using an incremental cost basis, such as ROB and NC projects, must include documentation for both the industry standard practice, or code baseline costs, and the efficient case costs to support the calculation of incremental cost which is the difference between the baseline and efficient case¹⁸.

When documenting incremental costs cases, additional documentation should be included in the cost summary:

- Incremental project costs may require two cost summary tables: one for the efficient case costs, and a second for the industry standard practice or code baseline costs.
- The incremental cost calculation details, including a description of baseline conditions and how baseline costs are estimated (e.g., estimates of baseline equipment costs from RSMMeans¹⁹, benchmark building costs with reference, , etc.), and adjusted (e.g., area

¹⁸ In the situation when the cost of an EEM is less than the cost of industry standard practice baseline, the kWh savings are still reportable despite the fact that the EEM is ineligible for BPA EE incentives.

¹⁹ Estimates based on RSMMeans should reference the software or publication version used, summarize the line items included, and describe any adjustments applied.

proration, regional cost inflators/deflators, or annual inflation). Typical sources of data used in cost estimates are listed in Section 4.2, Incremental Project Costs.

6.2 DOCUMENTING MISCELLANEOUS OR UNIQUE PROJECT COSTS

Unique or uncommon cost situations may warrant additional documentation to support eligibility and inclusion in total or incremental project costs. BPA staff can provide additional guidance for specific unique project cost documentation situations.

Consider the following if including these types of costs in the project cost documentation:

- Justification for why uncommon expenses should be included in the project.
- Justification to identify the spare part(s) or sub-system as “stand-by” and, therefore, eligible.
- Parts used from on-site stores should include the last paid purchase order (PO) and/or PO issued for the re-order to validate the current cost.
- The date the part(s) were used may also be required. Justification regarding any parts not being re-stocked may be requested.
- If the facility uses systems, applications and products (SAP) software, or a similar computer accounting system, an accounting summary of the onsite stores parts used for the project and the date that they were pulled from the onsite store may also be used as cost validation. Section 10/Appendix B includes a form for BPA to certify accounting systems for cost reporting.

7. OPERATIONS & MAINTENANCE (O&M) COSTS

Changes to O&M costs are not eligible project costs but they factor into project cost effectiveness and are important to document and to report them as part of the project.

7.1 CHANGES IN OPERATIONS & MAINTENANCE (O&M) COSTS

O&M costs refer to the ongoing and periodic incremental costs required to operate and maintain the measure-affected building components or equipment over the life of the measure.

After an energy efficiency project is implemented, the end user may have changes in ongoing O&M costs. These costs (or cost savings) impact cost effectiveness calculations and the average change in annual O&M costs should be documented, whether positive or negative. A “savings” (reduction) in annual O&M cost should be reported as a negative (-) dollar amount and will be treated as a “benefit” in the cost effectiveness calculation. These can include:

- Change in O&M time requirements or expertise.
- Change in need for maintenance components.

If the estimated change in annual O&M cost resulting from the installation of the project is periodic (e.g., occurs once every three years), the value reported should be an average annual amount over the pre-assigned life of the measure. This category of costs is not commonly used but should be included when the change in O&M costs are substantial in relation to the measure’s costs and savings.

EXAMPLE PROJECTS WITH O&M COST CHANGES

O&M Example 1: An old air compressor that frequently leaks oil. When the old compressor is replaced with a new compressor, the O&M costs are reduced by lowering maintenance and cleanup costs. The difference in the average annual maintenance costs may be counted as an O&M benefit.

O&M Example 2: An HVAC system has pneumatic controls that require frequent leak management. The controls are upgraded to a direct digital control (DDC) system. O&M benefits are realized by the control system no longer needing frequent pneumatic hose repair and HVAC downtime for repair. The difference in the average annual maintenance costs may be counted as an O&M benefit.

O&M Example 3: Installation of an energy saving heat exchanger that requires quarterly cleaning. This maintenance was not needed for the previous system and requires hiring a specialized technician to work on condensing boilers. This (negative) change in O&M costs will negatively impact cost effectiveness.

DOCUMENTING CHANGE IN O&M COSTS

When documenting a change in O&M costs, the same incremental cost concept described in Section 4.2 for implementation costs applies to O&M costs.

Ongoing annual costs/benefits can be positive (+) or negative (-) and are typically reported as incremental costs.²⁰ To be included, these costs must occur annually or be amortized annually. Ongoing costs can have a large impact on project TRC since they persist for the lifetime of the project. The rigor to document these costs depends on how they compare to total project costs. If the project lifetime total value of these costs is the same order of magnitude as total project costs, they merit a similar level of rigor.

Note: While the changes in O&M costs and benefits should be detailed in supporting documentation and entered in BEETS, these are not included in the measure cost, nor in the total or incremental project cost summation.

²⁰ <https://nwcouncil.app.box.com/v/2020RTFGuidelines> Section 7.3.5

8. NON-ENERGY IMPACTS (NEIS)

The value of NEIs, where present, are not eligible project costs but they factor into project cost effectiveness and are important to document and to report as part of the project.

8.1 DEFINING NON-ENERGY IMPACTS (NEIS)

Non-Energy Impacts (NEIs) are defined as any costs, positive or negative, that directly result from a measure that are not captured through the electrical energy analysis or the categories of project costs, changes in operations and maintenance, or program administration²¹. This requires quantification of environmental costs and benefits that are directly attributable to a measure over the effective life of the measure, but which are not otherwise accounted for in the avoided costs of electricity.

NEIs may include item such as:

- Change in water or natural gas consumption
- Change in non-utility metered fuels (propane, coal)
- Other benefits such as carbon emissions credits acquired
- Productivity changes such as increased units/shift

Examples of non-energy impacts include water savings or gas savings. This data impacts the calculation of the project-level cost-effectiveness and does not impact the calculation of the BPA reimbursement.

Generally, these impacts (either costs or cost savings) are annualized over the life of the project and the average cost for a year is reported.

This category of costs is not commonly used but should be included when the change in costs is substantial in relation to the project's costs and savings.

EXAMPLE PROJECTS WITH NON-ENERGY IMPACTS (NEIS)

NEI Example 1: A space-cooling chilled water system was retrofitted with a water-side economizer using a new cooling tower. The additional evaporative load substantially increases the water consumption at the facility. The make-up water and blow-down for the new cooling tower are estimated and the additional costs are determined for the first year.

NEI Example 2: A constant volume HVAC system with gas heat is retrofitted to a variable speed system with an economizer and demand control ventilation. In addition to the

²¹ Program administration costs are determined by the program administrator and should not be claimed as project costs by energy efficiency customers and implementers when documenting and reporting project costs.

electric cooling and fan savings, the project would also yield gas savings which can be claimed as a non-energy impact benefit.

NEI Example 3: A pulp and paper processor captures waste heat from their electric boiler to heat their electrically heated offices and hog fuel heated shop. The reduction in hog fuel costs and social cost of carbon emissions can be claimed as a non-energy impact benefit.

8.2 DOCUMENTING NON-ENERGY IMPACTS

As described in Section 8.1 above, non-energy benefits/impacts (NEIs) are environmental in nature and are directly attributable to the energy conservation measure. NEIs are incremental in nature and follow the incremental cost documentation procedures described elsewhere.

Documentation for changes in water or natural gas can be supported with utility bills, equipment specifications, and engineering estimates. These are often calculated as the cost of the change in consumption compared to baseline conditions.

The less tangible types of costs are generally supported with econometric or industry studies and should be applied conservatively and consistently across similar measures to prevent biasing in cost effectiveness.²²

Note: While the NEIs should be included in the project cost summary, these are not included in the total or incremental project cost summation, and do not impact BPA reimbursement amounts.

²² <https://nwcouncil.app.box.com/v/2020RTFGuidelines> Section 7.3.5

9. APPENDIX A – COST DOCUMENTATION EXAMPLES

This section includes examples of acceptable cost documentation for different scenarios. There will always be unique scenarios which may require additional guidance from BPA.

9.1 INVOICE SUMMARY

The following example is a summary of the invoices from an Early Replacement (ER) retrofit. The project began in July 2021 and was completed in June 2022. The contractor invoiced the customer through six invoices which represented the execution of the scope of work. The final invoice was not included in the project total since it fulfilled a change-order for work unrelated to the project. The invoices were provided separately.

This type of payment documentation might be typical for an Energy Services Company (ESCO) where progress payments between the customer and implementer are needed.

Table 7: Example Summary of Final Project Costs

Invoice from	ID	Date	Invoice Sub-Total	Sales Tax	Total Amount	Cumulative	% Complete	
Refrigeration HVAC Contractor	47775	7/28/2021	\$13,535.00	\$1,228.98	\$14,763.98	\$14,763.98	1.94%	
Refrigeration HVAC Contractor	48594	10/28/2021	\$286,465.00	\$26,011.02	\$312,476.02	\$327,240.00	42.97%	
Refrigeration HVAC Contractor	49627	12/15/2021	\$290,000.00	\$26,332.00	\$316,332.00	\$643,572.00	84.50%	
Refrigeration HVAC Contractor	49951	1/18/2022	\$70,000.00	\$6,356.00	\$76,356.00	\$719,928.00	94.53%	
Refrigeration HVAC Contractor	50223	2/16/2022	\$38,223.00	\$3,470.65	\$41,693.65	\$761,621.65	100%	<i>Note: This was the original cost for contracted work (excluding sales tax)</i>
Refrigeration HVAC Contractor	51449	6/29/2022	\$76,324.17	\$6,930.23	\$83,254.40	\$844,876.05	100%	<i>Note: This additional invoice is due to a change-order</i>

9.2 BREAKOUT OF ECM COSTS FROM A LARGE PROJECT

In this example a large custom retrofit project (Early Replacement) was implemented by a prime contractor or ESCO. Three of the Energy Conservation Measures (ECMs) were submitted as a custom retrofit (ER) project. The total cost for the three specific ECMs (#9, 12, and 13) is determined from the overall project costs shown in Table 8. This requires allocating the shared general project costs (Item No 1, 2, and 3) to the ECMs. Copies of the six related invoices were provided separately.

Table 8: Total Cost of ECMs in a Large Project - Example

Item No	Invoice Number	Item Description	Quoted Cost	Total Invoiced	Previously Invoiced	Current Invoice	% Complete
1	5256	Mobilization of Permits	\$ 65,067.50	\$ 65,067.50	\$ 65,067.50	\$ -	100%
2	5259	Project supervision (on-site)	\$ 75,164.81	\$ 75,164.81	\$ 75,164.81	\$ -	100%
3	5279	Bond and Builders Risk	\$ 124,249.00	\$ 124,249.00	\$ 124,249.00	\$ -	100%
4	5299	RCM-1.0 Boiler Plant Upgrades	\$ 6,275,729.95	\$ 6,234,756.67	\$ 6,215,830.59	\$ 18,926.08	99%
5	5307	RCM-1.0 Add It 2: Domestic Water	\$ 167,881.79	\$ 167,881.79	\$ 167,881.79	\$ -	100%
6	5315	RCM-1.1 Kitchen Equipment	\$ 563,060.62	\$ 563,060.62	\$ 563,060.62	\$ -	100%
7	5317	RCM-1.2 Laundry Equipment Replacement	\$ 514,161.20	\$ 514,161.20	\$ 514,161.20	\$ -	100%
8	5321	RCM-2.0 Int and Ext Lighting	\$ 1,038,932.87	\$ 1,038,932.87	\$ 1,038,932.87	\$ -	100%
9	5337	RCM-3.0 BAS Upgrades	\$ 814,925.64	\$ 814,925.64	\$ 814,925.64	\$ -	100%
10	5338	RCM-4.0 Domestic Water Controls	\$ 1,713,657.17	\$ 1,713,657.17	\$ 1,713,657.17	\$ -	100%
11	5358	RCM-5.0 Building Submetering	\$ 269,777.58	\$ 269,777.58	\$ 269,777.58	\$ -	100%
12	5364	RCM-6.1 Heat Recovery Loop	\$ 339,740.32	\$ 339,740.32	\$ 339,740.32	\$ -	100%
13	5380	RCM-6.4 Retro-Commissioning	\$ 82,116.55	\$ 82,116.55	\$ 82,116.55	\$ -	100%
14	5383	CO #1 - FA-1 Light Study	\$ 4,069.13	\$ 4,069.13	\$ 4,069.13	\$ -	100%
15	5388	CO #2 - Shower Valve & Head	\$ 19,608.17	\$ 19,608.17	\$ 19,608.17	\$ -	100%
16	5397	CO #3 - Remove & Install New	\$ 14,339.00	\$ 14,339.00	\$ 14,339.00	\$ -	100%
17	5398	CO #4 - Contract extension of 159 Calendar Days	\$ -	\$ -	\$ -	\$ -	100%
18	5416	CO #5 - Domestic Water Bladder Tank Cleaning	\$ 5,064.32	\$ 5,064.32	\$ 5,064.32	\$ -	100%
19	5436	CO #6 - Chemical Evacuation Panel	\$ 8,077.86	\$ 7,791.00	\$ 7,791.00	\$ -	100%
20	5446	CO #7 - Walk-in-Coolers & Freezers	\$ 436,620.00	\$ 254,615.44	\$ 157,042.10	\$ 97,573.34	100%
21	5448	CO #8 - Remove & Replace Failed Dampers	\$ 54,789.68	\$ 40,934.00	\$ 40,934.00	\$ -	100%
22	5462	CO #9 - Utilidor	\$ 1,797,625.65	\$ 1,556,912.47	\$ 1,420,948.07	\$ 135,964.40	100%
			\$14,384,658.81	\$13,906,825.25	\$ 13,654,361.43	\$ 252,463.82	

Table 9: Calculate Shared Project Costs for Selected ECMs - Example

Step #:
1. Total cost of selected ECM's = \$814,925.64 + \$339,740.32 + \$82,116.55 = \$1,236,782.51
2. Overall total cost = \$14,384,648.81
3. ECMs' percentage of total cost (Step 1 divided by Step 2) = 8.60%
4. Total overhead costs from item numbers 1, 2, and 3 = \$264,481.31
5. Attribute overhead costs to selected ECMs (Step 3 times Step 4) = \$22,738.21
6. Add overhead costs to ECMs to calculate overall ECM cost (Step 1 plus Step 5) = \$1,259,520.72

9.3 INCREMENTAL COST EXAMPLE 1

A multiple variable frequency drive (VFD) installation project was part of a multi-million plant-wide major renovation in 2017. The final motor loading and operation was to be determined and validated during M&V, applying an Equipment or End-Use Metering - Absent Baseline Measurement approach.

Because this project was considered a major renovation, the estimated incremental project costs were used. These were calculated as the cost differences between installing a variable frequency drive (VFD) and installing a motor starter for each pump motor.

For the CPP estimate (as seen in Table 10, below), the cost of VFDs and motor starters were based on equipment costs listed by Grainger. For each motor size based on nameplate horsepower (HP), the cost of a VFD and the cost for a motor starter were obtained. Installation costs and other related costs were assumed to be equivalent between VFD and motor starter scenarios. Total equipment costs for each scenario were then determined and the difference between totals used as the initial incremental cost submitted with the project’s CPP.

For the Completion Report the project contractor provided, itemized the actual costs for installing the VFD’s. Incremental costs were the actual costs of the VFDs less the estimated costs of the starters from the CPP estimate.

Table 11 summarizes the actual VFD costs from the mechanical contractor and was part of more detailed information provided as supporting documentation.

Table 10: Example of Initial Estimate of Incremental Costs in Custom Project Proposal (CPP)

Estimated Eligible Project Cost Summary						
Unit Costs				Totals		Incremental Cost
HP	#	Starter Cost/Unit	VFD Cost/Unit	Starters	VFDs	VFD - Starter
6-10	2	\$ 633.60	\$ 2,141.92	\$ 1,267.20	\$ 4,283.84	\$ 3,016.64
11-15						
16-20	1	\$ 1,245.20	\$ 3,293.84	\$ 1,245.20	\$ 3,293.84	\$ 2,048.64
21-30	4	\$ 1,245.20	\$ 4,006.64	\$ 4,980.80	\$ 16,026.56	\$ 11,045.76
	7			\$ 7,493.20	\$ 23,604.24	\$ 16,111.04

Table 11: Example of Final Estimate of Incremental Costs in Completion Report (CR)

Final Project Cost Summary					
HP	Count	Per VFD	Total Cost	Documentation Included	Incremental Cost
7.5	2	\$ 1,234.06	\$ 2,468.12	See Invoice # 1920	Total cost - Baseline Cost (\$7,493.20)
20	1	\$ 1,950.20	\$ 1,950.20	See Invoice # 1920	
25	4	\$ 2,171.40	\$ 8,685.60	See Invoice # 1920	
			\$ 13,103.92		\$ 5,610.72

Note: 30 HP incremental cost information was not available or provided yet the customer service engineer verified installation of four (4) during a post-project site visit. Instead of requesting an updated table from the contractor, and rather than estimating a 30 HP cost by interpolating between 25 HP and 50 HP, it was agreed that costs for the next smallest HP would be acceptable. That is, the incremental cost of a 25 HP VFD vs. starter was used for the four (4) 30 HP VFD’s in the project.

9.4 INCREMENTAL COST EXAMPLES 2 & 3

In the two cases below, the Completion Report includes an adjustment to the estimated baseline costs submitted in the Custom Project Proposal based on the actual final project costs.

The first case is summarized in Figure 2. In this case, the final project costs were about 5% above original cost estimates. Since there is no final baseline cost, the initial baseline cost estimate is adjusted proportionally to the final invoiced project cost to determine incremental costs.

The next example, shown in Figure 3, provides a similar adjustment to cost estimates from the project’s CPP. In this case, the actual implementation costs were about 50% lower than anticipated. Assuming the baseline costs were similarly overestimated resulted in a decrease in the final incremental cost presented in the CR.

	A	B	C	D	E	F	G	H	I	J	K
1	Per BPA Approved Custom Project Proposal:										
2	Conditioned Space of Building =		41,112	Sq. Ft.							
3	High Efficiency HVAC Installed Cost =		\$18.00	per sq. ft. from reliable technical resource							
4	Code Min. HVAC System Cost =		\$15.00	per sq. ft. from reliable technical resource							
5											
6	High Efficiency HVAC Estimated Installed Cost		\$740,016.00	applying above values: (\$18 - \$15)*41112							
7	Code Min. HVAC System Cost Estimate =		\$616,680.00	applying above values: (\$18 - \$15)*41112							
8	Incremental Cost =		\$123,336.00	Difference between Code Min. System Cost and High Efficiency HVAC Installed Cost; BPA Approved Custom Project Proposal Incremental Cost							
9											
10											
11	Per BPA Approved Custom Report:										
12	Actual installation costs equipment & labor =	\$	774,547.17	With Completion Report High Efficiency HVAC System Total Cost:							
13											
14											
15	Difference between Installed High Efficiency HVAC Cost and Estimated High Efficiency HVAC Cost:										
16											
17	Additional HVAC Costs =		\$34,531.17	Estimated Cost for High Efficiency System - Installed Cost of High Efficiency System							
18											
19	% Above CPP Estimate =		4.67%								
20											
21	If the estimated code minimum HVAC system costs would have increased by same %, then:										
22											
23	Code Min. HVAC System Cost Estimate =		\$15.70	baseline cost per sq. ft. estimate, adjusted from CP							
24											
25	Revised Baseline HVAC System Cost =		\$645,455.98	Adjusted baseline estimate							
26											
27	Completion Report Incremental Cost =	\$	129,091.20	(Installed Cost) - (Revised Baseline HVAC System Cost)							
28											

Figure 2: Incremental Cost Calculation for CPP – Example 2

	A	B	C	D	E	F
1	Per Custom Project Proposal:					
2	Existing Condenser Unit Capacity =				12,320	MBH
3	Baseline Efficiency Condenser Unit Est. Cost and Capacity		\$164,041.00	Vendor Quote	14,217	MBH
4	High Efficiency Condenser Unit Est. Cost and Capacity		\$220,989.00	Vendor Quote	14,623	MBH
5						
6	CPP Estimated Incremental Cost =		\$56,948.00			
7						
8	Yet, cost for high efficiency condenser unit totaled:					
9			\$111,881.50	Final Invoice		
10						
11	% less than the estimated cost =		49.4%	Baseline Efficiency Condenser Unit Est. Cost - High Efficiency Condenser Unit		
12						
13	If the estimated baseline efficiency condenser unit decreased by same %, then:					
14						
15	Revised Baseline HVAC System Cost =		\$ 80,990.92			
16						
17	Completion Report Incremental Cost =		\$ 30,890.58			

Figure 3: Incremental Cost Calculation for CPP – Example 3

9.5 INTERNAL LABOR COST AND MATERIALS EXAMPLE

Table 12, below, is a cost summary including labor details is typical for claiming internal labor related to implementation of energy conservation measures. Labor summaries should have an accompanying description of labor scope to provide context to BPA Quality Control (QC) reviewers.

In this example, refrigeration and compressed air measures were implemented by in-house staff. The staff hours spent on implementation tasks were tracked throughout July 2023, and summarized in Table 12, along with several related purchased items (e.g., valves, sensors) required for the installation. The invoices for the purchased items were provided separately.

Table 12: Summary of Internal Labor Costs - Example

Action Item #	Priority	Eligible for Incentive	Subsystem	Action Item Description	Outside Hardware and Service Costs	Invoice / Work Order / Purchase Requisition Number	Employee Title	In House Labor (Hourly)		Total Labor Cost	Total Parts and Labor
								\$/hr	Hours		
3	High	Yes	Refrigeration	Cooler Zone Evaporator Hot Gas Defrost Regulators	\$ -	In house hours - Spreadsheet June 2023	Mechanic Helper	\$ 24.90	4	\$ 99.60	\$ 99.60
6	High	Yes	Refrigeration	Repair Autopurger	\$ -	In house hours - Spreadsheet June 2023	Mechanic II	\$ 43.90	8	\$ 351.20	\$ 351.20
6	High	Yes	Refrigeration	Repair Autopurger	\$ -	In house hours - Spreadsheet June 2023	Mechanic II	\$ 43.90	4	\$ 175.60	\$ 175.60
6	High	Yes	Refrigeration	Repair Autopurger	\$ -	In house hours - Spreadsheet June 2023	Mechanic Helper	\$ 24.90	4	\$ 99.60	\$ 99.60
4	High	Yes	Refrigeration	Reduce Condensing Pressure/Utilize Wet Bulb Condensing Pressure Control Strategy	\$ -	In house hours - Spreadsheet June 2023	Mechanic Helper	\$ 24.90	4	\$ 99.60	\$ 99.60
18	Normal	Yes	Compressed Air	Add Automatic Solenoid Valve for Bone Line Compressed Air	\$ -	In house hours - Spreadsheet June 2023	Mechanic Helper	\$ 24.90	22	\$ 547.80	\$ 547.80
8	Normal	Yes	Refrigeration	Calibrate the Liquid Condensate Sensor	\$ -	In house hours - Spreadsheet June 2023	Mechanic II	\$ 43.90	5	\$ 219.50	\$ 219.50
24	Normal	Yes	Compressed Air	Execute Ultrasonic Leak Detector/Implement Leak Detection Plan	\$ -	In house hours - Spreadsheet June 2023	Mechanic Helper	\$ 24.90	6	\$ 149.40	\$ 149.40
24	Normal	Yes	Compressed Air	Execute Ultrasonic Leak Detector/Implement Leak Detection Plan	\$ -	In house hours - Spreadsheet June 2023	Mechanic II	\$ 43.90	8	\$ 351.20	\$ 351.20
24	Normal	Yes	Compressed Air	Execute Ultrasonic Leak Detector/Implement Leak Detection Plan	\$ -	In house hours - Spreadsheet June 2023	Mechanic I	\$ 38.80	16	\$ 620.80	\$ 620.80
6	High	Yes	Refrigeration	Repair Autopurger	\$ 274.80	88933TK-IN	\$ -	0	0	\$ 274.80	\$ 274.80
18	Normal	Yes	Compressed Air	Add Automatic Solenoid Valve for Bone Line Compressed Air	\$ 481.67	4500941004	\$ -	0	0	\$ 481.67	\$ 481.67
18	Normal	Yes	Compressed Air	Add Automatic Solenoid Valve for Bone Line Compressed Air	\$ 54.71	907907	\$ -	0	0	\$ 54.71	\$ 54.71
18	Normal	Yes	Compressed Air	Add Automatic Solenoid Valve for Bone Line Compressed Air	\$ 80.00	880144	\$ -	0	0	\$ 80.00	\$ 80.00
24	Normal	Yes	Compressed Air	Purchase Ultrasonic Leak Detector/Implement Leak Detection Plan	\$ 315.46	4500944700	\$ -	0	0	\$ 315.46	\$ 315.46
4	High	Yes	Refrigeration	Reduce Condensing Pressure/Utilize Wet Bulb Condensing Pressure Control Strategy	\$ 1,263.00	88103PS-IN	\$ -	0	0	\$ 1,263.00	\$ 1,263.00
Total										\$ 2,714.30	\$ 5,183.94

9.6 EXAMPLE EQUIPMENT FINAL INVOICE

Figure 2, below, provides an example of a final invoice from an equipment supplier.

Note: Estimated freight costs are trued-up with actual freight costs and final taxes are included.

Equipment Supplier Logo

INVOICE

INVOICE NUMBER XYZ - 123
 INVOICE DATE 5/27/2022
 CONTRACT NUMBER

BILL TO:

LOCATION:

JOB

Customer Number	Contract Number	Payment Terms	Due Date
D&SEN0001		Net 30	6/26/2022

Detail of Charges:

Bill Code Number	Scheduled Value	% Complete	Amount Earned	Previous Billing	Current Bill
01 FROZEN FOOD 20 DOORSRLN	\$35,186.00	100%	\$35,186.00	\$17,593.00	\$17,593.00
02 FROZEN FOOD 19 DOORSRLN	\$33,072.00	100%	\$33,072.00	\$16,536.00	\$16,536.00
03 FF END CAPS 2 DOOR RLN x2	\$9,512.00	100%	\$9,512.00	\$4,756.00	\$4,756.00
04 DAIRY/DELI 28' IDD6SU	\$31,072.00	100%	\$31,072.00	\$15,536.00	\$15,536.00
05 FREIGHT ESTIMATED	\$14,000.00	100%	\$14,000.00	\$7,000.00	\$7,000.00
CO 01 Materials Surcharge	\$6,530.00	100%	\$6,530.00	\$0.00	\$6,530.00
CO 02 Freight - Actual Cost	\$6,383.13	100%	\$6,383.13	\$0.00	\$6,383.13
Totals	\$135,755.13		\$135,755.13	\$61,421.00	\$74,334.13

Description:

Billing Amount	\$74,334.13
Retention Withheld	\$0.00
Retention Due	\$0.00
Subtotal	\$74,334.13
Total Tax	\$6,021.06
Total	\$80,355.19

Effective January 1, 2018, all credit card payments will be subject to 1.5% per transaction

Please Remit Payments to Equipment Supplier Name, Address, City, State, Zip Code

Thank you for your business!

**Additional Equipment Supplier Products
And Contact Information**

Figure 4: Example of a Final Invoice for Equipment

10. APPENDIX B – END-USER SELF-CERTIFICATION

End-user Self-Certification

[to be completed by the end-user and reviewed by the utility]

Provide a copy of your latest external CPA audit results – to demonstrate an audit has taken place and there are no findings. If findings are not favorable, then they are not a candidate for self-certification. If findings are favorable, then they are a candidate.

PEK Manager – Will determine candidacy for self cert.

Reliability and Accuracy of Cost Information

[Certification that the end-user has an accounting system and system of controls capable of producing accurate and reliable project cost information.]

- Please provide a copy of the latest general accounting accepted principles (GAAP) audit opinion. – Identify exact accounting language
No audit – No Self Certification
- Please provide a sample of the documentation that you would provide BPA in order to verify project costs. Describe the minimum information required. Provide an example of the summary and detail.
 - Accounting system being used.
 - Description to tell us what the work order or information represents, i.e., individual line should have good enough description for clarity.
- An overview of the accounting system that will be used to record project costs. Provide, control documents and example reports that illustrate system operations.

a.

b.

c.

Compliance with reporting requirements

Compliance with documentation requirements

[Certification that the end user will comply with documentation and document retention requirements]

-
- How long are original invoices/supporting documentation kept?

End-user Signature

Signed: _____ Date: _____

Name:
Position:
Name of Company:
Address:
Phone Number:
Email:

By signing above, the signatory represents that they are an authorized representative of the company or entity identified and has legal authority to make the representations contained herein and that all such representations are true and accurate to the best of signatory's knowledge and belief.

Serving Utility Signature

Signed: _____ Date: _____

Name:
Position:
Name of Utility:
Address:
Phone Number:
Email:

By signing above, the signatory represents that they are an authorized representative of the utility, agrees with and supports this self-certification process, and understands that the utility will be responsible for producing primary documentation for audit and/or oversight purposes.