



ENERGY SAVINGS FOR BUSINESS

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CES Program Cooling and Ventilation Checklist

January 4, 2023

Version 1.0



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INTRODUCTION

This document is intended as a guide to support the submission of accurate and complete Cooling and Ventilation project applications. All applicants with Cooling and Ventilation projects should ensure the application meets the CES Eligibility Requirements set out in the Participant Terms and Conditions, Contractor Code of Conduct and Eligible Measures List. The applicant must submit the requested documentation and answer the questions contained within this document.

This checklist includes guidance for what needs to be entered in each input field at Step 4 and Step 5 of the Application process. Step 5 specifically describes which documents need to be uploaded and their purpose.

GUIDANCE ON APPLICATIONS

The following sections provide guidance on Cooling and Ventilation applications, ensuring that they are complete, accurate and comprehensive.

The applicant and/or contractor will also need to provide the following information in Step 4 and Step 5 of the application submission, as further described in the tables below.

STEP 4 OF PRE-PROJECT APPLICATION ADVANCED ROOFTOP UNIT CONTROLS

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	Upload the specification sheet for the measure. Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one unit.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
RTU Heating Capacity (BTU/hr)	Enter heating capacity of the rooftop unit as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Heating Efficiency (%)	Enter heating efficiency of the rooftop unit as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Cooling Capacity (Tons)	Enter cooling capacity of the rooftop unit as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Cooling Efficiency (EER)	Enter cooling efficiency as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
Control System Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Control System Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Control System Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

CHILLERS

- Air Cooled Chiller

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	Upload the specification sheet for the measure. Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Chiller Capacity (Tons)	Enter chiller capacity in Tons as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Chiller Efficiency (EER)	Enter chiller efficiency as indicated on the specification sheet.	<ul style="list-style-type: none"> • Used to check measure eligibility.
Chiller Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Chiller Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Chiller Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice / final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

- Water Cooled, Positive Displacement Chiller
- Water Cooled, Centrifugal Chiller

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	<p>Upload the specification sheet for the measure.</p> <p>Indicate/circle which specific equipment is being used for project.</p>	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one fixture.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Chiller Capacity (Tons)	Enter chiller capacity in Tons as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Chiller Efficiency (kW/Ton)	Enter chiller efficiency as indicated on the specification sheet.	<ul style="list-style-type: none"> • Used to check measure eligibility. • Post-project QA/QC.
Chiller Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Chiller Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Chiller Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

DEMAND CONTROLLED VENTILATION

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	Upload the specification sheet for the measure. Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Heating System Input Rate (MBH)	Enter the heating system input rate for the building the measure is being installed.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Heating System Efficiency (%)	Enter the heating system efficiency for the building the measure is being installed.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Area Being Controlled by Sensor (sqft)	Enter the area controlled by one sensor.	<ul style="list-style-type: none"> • Used to check measure eligibility. • Post-project QA/QC.
Cooling System Capacity (Tons)	Enter the cooling system capacity for the measure is being installed.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Cooling System Efficiency (EER)	Enter the cooling system efficiency for the measure is being installed.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

DESTRATIFICATION FANS

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	Upload the specification sheet for the measure. Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Heating System Input Rate (MBH)	Enter the heating system input rate for the building you are installing the measure.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Heating System Efficiency (%)	Enter the heating system efficiency for the building you are installing the measure.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Cooling System Capacity (Tons)	Enter the cooling system capacity for the building you are installing the measure.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Cooling System Efficiency (EER)	Enter the cooling system efficiency for the building you are installing the measure.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Height of Installation of Destratification Fan (feet)	Enter height of installation of destratification fan.	<ul style="list-style-type: none"> • Used to check measure eligibility. • Post-project QA/QC.
Diameter of Destratification Fan (inches)	Enter diameter of destratification fan as indicated on specification sheet.	<ul style="list-style-type: none"> • Checking if the measure is eligible. • Post-project QA/QC.
Estimated Coverage Area of Destratification Fan (sqft)	Enter area covered by one destratification fan.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Destratification Fan (CFM)	Enter fan's cubic feet per minute capability.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.

Roof R-Value	Enter roof insulation R-value.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

ENERGY RECOVERY VENTILATOR AND HEAT RECOVERY VENTILATOR

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	Upload the specification sheet for the measure. Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one system.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
HRV/ERV (CFM)	Enter CFM of the equipment as indicated on specification sheet. If multiple systems of varying capacity are being installed, then enter the weighted average capacity ¹ .	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Percentage Sensible Heat Recovery (%)	Enter sensible effectiveness of equipment as indicated on specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
Heating System Input Rate (MBH)	Enter the heating system input rate for the building you are installing the measure.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Heating System Efficiency (%)	Enter the heating system efficiency for the building you are installing the measure.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
HRV/ERV Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
HRV/ERV Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
HRV/ERV Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.

¹ Weighted average capacity: If there are multiple systems with different capacities; C₁, C₂, C₃ ... C_n and the quantities of each being installed are Q₁, Q₂, Q₃ ... Q_n then the weighted average capacity can be calculated as (C₁Q₁ + C₂ Q₂ + C₃Q₃ ++ C_nQ_n)/ (Q₁ + Q₂ + Q₃ ++ Q_n)

Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

MAKE-UP AIR UNIT

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	Upload the specification sheet for the measure. Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one unit.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Make-up Air Unit Thermal Efficiency (%)	Enter thermal efficiency for the Make-up Air Unit.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Make-up Air Unit CFM	Enter CFM of the equipment as indicated on specification sheet. If multiple systems of varying capacity are being installed, then enter the weighted average capacity ² .	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
Make-up Air Unit Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Make-up Air Unit Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Make-up Air Unit Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

² Weighted average capacity: If there are multiple systems with different capacities; C₁, C₂, C₃ ... C_n and the quantities of each being installed are Q₁, Q₂, Q₃ ... Q_n then the weighted average capacity can be calculated as (C₁Q₁ + C₂ Q₂ + C₃Q₃ ++ C_nQ_n)/ (Q₁ + Q₂ + Q₃ ++ Q_n)

PACKAGED TERMINAL HEAT PUMP

Field	What to Enter	How Data or Input Provided is Used
Quantity	Enter the number of measures being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	Upload the specification sheet for the measure. Indicate/circle which specific equipment is being used for project.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one pump.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
PTHP Input Rate (MBH)	Enter input rate in MBH as indicated on specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
PTHP Cooling Capacity (Tons)	Enter cooling capacity in Tons as indicated on specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
PTHP Heating Efficiency (HSPF)	Enter value as indicated on specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
PTHP Cooling Efficiency (SEER)	Enter value as indicated on specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

ROOF-TOP UNITS (RTU)

Field	What to Enter	How Data or Input Provided is Used
Quantity	Quantity of specific measure being installed.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Specification Sheet	<p>Upload the specification sheet for the measure.</p> <p>Indicate/circle which specific equipment is being used for project.</p>	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment Annual Operating Hours (hours)	Enter the estimated annual hours of operation for one unit.	<ul style="list-style-type: none"> • Used for estimating energy savings achieved.
RTU Heating Capacity (BTU/hr)	Enter heating capacity as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Heating Efficiency (%)	Enter heating efficiency as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Cooling Capacity (Tons)	Enter cooling capacity as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Cooling Efficiency (EER)	Enter cooling efficiency as indicated in the specification sheet.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Manufacturer Name	Enter manufacturer name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Model Name	Enter model name as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
RTU Model Number	Enter model number as indicated on specification sheet and invoice/final quote.	<ul style="list-style-type: none"> • Post-project QA/QC.
Equipment & Material Costs	Enter equipment and material costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Labour Cost	Enter labour costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.
Design Cost	Enter design costs and include all other costs as indicated on the invoice/final quote.	<ul style="list-style-type: none"> • Calculate eligible incentive. • Post-project QA/QC.

STEP 5 OF PRE-PROJECT APPLICATION: ALL COOLING AND VENTILATION MEASURES

Field	What to Enter	How Data or Input Provided is Used
Cost Quote	Quote or invoice should be itemized to include quantity, brand, model numbers for equipment, applicant name, contractor name, facility address and date (Sample quote provided at Appendix). Costs should be indicated separately for: <ul style="list-style-type: none"> • Equipment and Material • Labour • Design and Others • Taxes 	<ul style="list-style-type: none"> • Cross-reference against provided costs. • Calculate eligible incentive. • Post-project QA/QC.
Electricity Bill for Facility	Upload the most recent electricity bill available for the facility.	<ul style="list-style-type: none"> • Ascertain rate class.

POST-PROJECT APPLICATION

Note that for the post-project application, you will be required to confirm that no changes were made from the pre-project application, unless an Application Change Approval Notice was issued by ERA. In terms of documents required, you will need to provide evidence of the following:

- Invoice for Project Costs,
- Proof of Payment for Project Costs, and
- Conditions stated in the Notice of Pre-Approval.

Participant may be subject to a QA/QC check and asked for additional documentation to facilitate a site visit.


APPENDIX

SAMPLE INVOICE/FINAL QUOTE

Quotes should be itemized to include quantity, brand, model numbers for equipment, applicant name, contractor name, facility address and date. Costs should be indicated separately for:

- Equipment and Material,
- Labour,
- Design and Others, and
- Taxes.

A sample quote is provided below:

	Company Address: XXXX		
	Website: XXXX		
	Phone: XXXX		
PROJECT NAME: XXXX		Project Start Date:	XXXX
		Project Completion Date:	XXXX
Applicant Company: XXXX		Quote #:	XXXX
Applicant Name:	XXXX	Date:	XXXX
Facility Address:	XXXX		
Phone:	XXXX		
Measure #1			
Fixture Description	LITHONIA CPANL 2X4 40/50/60LM 40K M2	DLC	PMS5PPS6
Measure Description	LED 2x4 Recessed Light Fixture - 4,500 – 5,999 Lumen Output	QTY	63
Measure Equipment/Material Costs			\$ 6,538.71
Measure Labour Costs			\$ 13,251.74
Measure Design/Other Costs			\$ -
	Measure Total Costs		\$ 19,790.45
Measure #2			
Motor Description	ILA7080-H Siemens Semiotics 10 hp	QTY	1
Measure Description	Premium efficient motor –ODP-10 hp		
Measure Equipment/Material Costs			\$ 934.10
Measure Labour Costs			\$ 123.11
Measure Design/Other Costs			\$ 50.00
	Measure Total Costs		\$ 1,107.21
Measure #3			
Sensor Description	Occupancy Sensor	QTY	305
Measure Description	Fixture Mounted Sensor		
Measure Equipment/Material Costs			\$ 15,250.00
Measure Labour Costs			\$ -
Measure Design/Other Costs			\$ -
	Measure Total Costs		\$ 15,250.00
Total			
Total Equipment/Material Costs			\$ 22,722.81
Total Labour Costs			\$ 13,374.85
Total Design/Other Costs			\$ 50.00
	Total Project Cost		\$ 36,147.66
	GST		\$ 1,807.38
	Total Cost w/ GST		\$ 37,955.04