

CHP Package Application [EXAMPLE]

Packaged CHP System Model Number	Example CHP Package	Number existing installations of this package	6
Prime Mover Type	Combustion turbines	Fuel Type	Propane
# of Prime Movers per System	3	Maximum Parallel Installations	10
Thermal Outputs	Hot Water Only	Remote Monitoring Capability	No
Available to Solution Providers	No	Packaged in U.S.A.	Yes
Outdoor Installation Capable	No		

SPECIFICATIONS AND PHOTOS

Part of Public Listing

Packaged CHP System Specifications
Provide component specifications for major components (e.g. engine, generator, protective relay, heat recovery heat exchangers, chillers and cooling towers). Note that the specification sheet can be filled out using an excel spreadsheet and uploaded or online.

SPECIFICATION FORM

☒ Complete

Primary Packaged CHP System Photo (JPEG Min 1MB)
The primary photo of the CHP package will also be used as the thumbnail photo on the Packaged CHP System card. For best appearance on package card, image should have a 16x9 aspect ratio.

UPLOAD

☐ To-Do

Packaged CHP System Simplified Schematic (Image File, Color Preferred)
Basic Packaged CHP System Schematic showing key components (e.g. engine, generator, interconnection equipment, heat recovery heat exchangers, and chillers and cooling towers). Make and model numbers must be included for all components. If you input multiple makes and model numbers for major components in the package application, you must list them on the Packaged CHP System Simplified Schematic to ensure that certain Customer Engagement Programs accept the system in their program.

UPLOAD

☐ To-Do

Major Packaged CHP System Components
Enter major component with descriptions and photos for publication in the eCatalog:
Prime Mover, Generator, Interconnection Equipment, HRSG, HRHW, Dump Radiator, Chiller, Cooling Tower, Other-Please Specify.

UPDATE AND VIEW COMPONENT DETAILS

☐ Optional

Major Packaged CHP System Options
Enter major options with descriptions and photos for publication in the eCatalog:
Fuel Gas Booster Compressor, Fuel Cleanup System, Sound Attenuation, After-Treatment, Other-Please Specify

UPDATE AND VIEW OPTION DETAILS

☐ Optional

OPTIONAL MASTER DOCUMENT

For Internal Review

Master Packaged CHP System Document

Upload a Master Packaged CHP System Document and then you only need to enter the associated page numbers in the Master Packaged CHP System Document where the material is contained. All public facing documents: the Excel spreadsheet, the Primary Packaged CHP System Photo and the Packaged CHP System Simplified Schematic must be provided separately.

UPLOAD

☐ Optional

DRAWINGS AND DIAGRAMS

For Internal Review

Packaged CHP System Layout Drawing (PDF)

CHP system layout drawing, also known as a general arrangement drawing, showing all major components (e.g. engine, generator, heat recovery heat exchangers, chillers and cooling towers), their relationship to each other, major interconnecting piping, weights and dimensions.

UPLOAD

☐ To-Do

Packaged CHP System Electrical Single-Line Diagram (PDF)

Provide a CHP system electrical single-line diagram showing generator output and the relationship to the protective relays, loads and the grid. This may take several forms as grid interconnection may differ. Also, show all electrical parasitic power connections to supplied pumps, compressors, chillers, fans, etc. and list their individual loads.

UPLOAD

☐ To-Do

PRODUCT AND PERFORMANCE

For Internal Review

Packaged CHP System Performance Test Data (PDF)

CHP system performance test data at 100% Gross Power, or CHP major component performance test data for prime mover, generator, heat recovery heat exchangers, dump radiators, chillers, cooling towers and other thermally activated technologies offered. State test procedures, tolerances and show calculations. This data must show power and thermal outputs to support the data provided in the Excel spreadsheet.

UPLOAD

☐ To-Do

Packaged CHP System Emissions Test Data (PDF)

Stoichiometric engine emissions data should be inclusive of a 3-way catalyst. Lean-burn engines without aftertreatment can be sited in many jurisdictions and can be offered in the eCatalog. Lean-burn engines with aftertreatment will be required by certain jurisdictions and should be offered as separate low NOx emissions model. All other prime movers should provide pre-aftertreatment or post-aftertreatment emissions data, if applicable to meet state regulations. (Select aftertreatment offering in Row 40 below). You will need to provide certified third-party emissions measurement reports when available or engine manufacturer's certified emissions at 100% gross power. Emissions testing must be in accordance with: EPA Method 5 – Particulate Matter, EPA Method 6 – Determination of Sulfur Dioxide Emissions from Stationary Sources, EPA Method 7e – Determination of Nitrogen Oxides Emissions from Stationary Sources, EPA Method 10 – Determination of Carbon Monoxide Emissions from Stationary Sources, EPA Method 25 – Gaseous Nonmethane Organic Emissions, or specific emissions methodology showing, by calculation, the equivalency to the above mentioned EPA Methods. The eCatalog requires NOx and CO emissions, other jurisdictions require NMHC, PM and even SO2 depending on the fuel. Please input the data you have and leave blank if the data is not available for any particular emission component. Emissions left blank will not appear on the detailed performance sheets. DO NOT PUT 0.00 AS THIS MEAN ZERO EMISSIONS FOR THAT COMPONENT AND WILL APPEAR AS ZERO EMISSIONS ON THE DETAILED PERFORMANCE SHEET.

UPLOAD

☐ To-Do

INSTALL AND OPERATING REQUIREMENTS

For Internal Review

Packaged CHP System Installation Guide

Provide standard installation guide for this Packaged CHP systems describing all necessary information to completely install the systems and interconnect all power, water, steam, air systems.

[UPLOAD](#)☐ To-Do**Packaged CHP System Commissioning Requirements**

Provide standard commissioning checklist and guidance for this Packaged CHP systems to assure successful inspection and startup of the Packaged CHP system.

[UPLOAD](#)☐ To-Do**Packaged CHP System Operations And Maintenance Manual**

Provide standard operation and maintenance manual for this Packaged CHP systems to assure successful operation and maintenance of the Packaged CHP system.

[UPLOAD](#)☐ To-Do**Packaged CHP System Interconnection Operation**

Provide an operational description of any protective relay and switchgear included with the Packaged CHP system as you synchronize and connect to the grid, disconnect from the grid, and if applicable island.

[UPLOAD](#)☐ To-Do**SERVICE AND WARRANTY**

For Internal Review

Packaged CHP System Service Requirements

Provide Service Requirements document that lists standard maintenance intervals and procedures.

[UPLOAD](#)☐ To-Do**Packaged CHP System Warranty**

Provide Standard Warranty document.

[UPLOAD](#)☐ To-Do**CERTIFICATIONS**

For Internal Review

IEEE 1547 Compliance For Protective Relay 52G Breaker And Grid Synchronizing Device

Standard for Interconnecting Distributed Resources with Electric Power Systems

[UPLOAD](#)☐ To-Do**UL 2200**

Standard for Stationary Engine Generator Assemblies

[UPLOAD](#)☐ To-Do**California Air Resources Board (CARB) Certification**[UPLOAD](#)☐ To-Do**Other Certifications**

Files should include other Certifications including: ut, assumenda, corrupti

[UPLOAD](#)☐ To-Do

This data is being collected to support the Department of Energy's CHP Deployment program. The data you supply will be used for developing best practices to facilitate reductions in energy intensity by commercial, manufacturing, and community organizations.

Public reporting burden for this collection of information is estimated to average 1/2 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Office of the Chief Information Officer, Enterprise Policy Development & Implementation Office, IM-22, Paperwork Reduction Project (1910-5141), U.S. Department of Energy, 1000 Independence Ave SW, Washington, DC, 20585-1290; and to the Office of Management and Budget (OMB), OIRA, Paperwork Reduction Project (1910-5141), Washington, DC 20503.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB control number.

Submission of this data is voluntary.

CHP Package Specifications [EXAMPLE]

← BACK TO PACKAGE OVERVIEW (UNSAVED DATA WILL BE LOST)

IT IS RECOMMENDED THAT YOU FIRST USE THE EXCEL-BASED CHP PACKAGE SPECIFICATION TEMPLATE TO COLLECT THE REQUIRED DATA. YOU CAN THEN LOAD THAT DATA INTO THE FORM BELOW.

STEP 1:  DOWNLOAD SPECIFICATION TEMPLATE [BLANK]

STEP 2: LOAD TEMPLATE DATA

Select the entire contents of the spreadsheet (press ctrl+A twice or ⌘+A twice or click the 'Select All' button), copy and paste it here

LOAD DATA

DEVELOPMENT ONLY | GENERATE RANDOM DATA

CANCEL

SUBMIT DATA

SYSTEM DESCRIPTION

Sound Pressure @ 1m height and 10m distance DbA

SYSTEM / COMPONENT	WIDTH IN FEET	LENGTH IN FEET	HEIGHT IN FEET	WEIGHT IN POUNDS
Prime Mover/Generator system (Includes maintenance clearances)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Heat Recovery subsystem if separate (Includes maintenance clearances)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Chiller if separate (Includes maintenance clearances)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total System Layout (Includes maintenance clearances)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Largest part for delivery	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Heaviest part for delivery	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

GRID INTERCONNECTION

Grid interconnection operation

select



PRIME MOVER

Multiple prime mover manufacturers/model numbers can be specified under a single Packaged CHP system model number, on an "or equal" basis, provided the CHP efficiency, $[(\text{Net Power} + \text{Useful Thermal}) / \text{Fuel Input at 100\% capacity and at 59°F}]$ does not vary more than $\pm 5\%$

Manufacturer

optional alternate

optional alternate

optional alternate

optional alternate

Model

optional alternate

optional alternate

optional alternate

Optional
Minimum Gross
Power Output

Not Used



Optional Minimum Gross Power Output to Highlight Lowest Power Output Performance Point

Performance - Data for three ambient temperatures (95°F, 59°F, and 0°F) and three power output levels (100%, 75%, 50%)

Percent Gross Generator Output	100%			75%			50%		
Ambient Temperature	95°F	59°F	0°F	95°F	59°F	0°F	95°F	59°F	0°F
Prime Mover Gross Power Output (kW)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Prime Mover Net Power Output (Gross minus all parasitics except fuel gas booster compressor and chiller if used) (kW)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fuel input, HHV (based on 1,030 Btu/scf for natural gas, 2,490 Btu/scf for propane, 476 Btu/scf for land fill gas and 690 Btu/scf for digester gas)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Exhaust temperature - before heat recovery (°F)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Exhaust temperature - after heat recovery (°F)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Exhaust flow rate <input type="text" value="scfm"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Exhaust maximum available back pressure (psig)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Required fuel pressure at control valve for prime mover

psig

Fuel Supply Pressure (psig)	1	25	50	100	300
Fuel Booster compressor power (if required) (kW)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

EMISSIONS DATA

Stoichiometric engine emissions data should be inclusive of a 3-way catalyst (pre-aftertreatment engine emissions data is not required - leave blank). All other prime movers should provide pre-aftertreatment and post-aftertreatment emissions data, if applicable to meet state regulations. For all emissions data provided, you will need to also need to provide certified third-party emissions measurements in accordance with latest EPA engine test procedures from 40 CFR Part 1065. Ambient temperature for EPA emission test is 25C +/- 5C (77F +/- 9F). Certain jurisdictions require various emission component limits. The eCatalog requires NOx and CO emissions, other jurisdictions require NMHC, PM and even SO2 depending on the fuel. Please input the data you have and leave blank if the data is not available for any particular emission component. Emissions left blank will not appear on the detailed performance sheets. DO NOT PUT 0.00 AS THIS MEAN ZERO EMISSIONS FOR THAT COMPONENT AND WILL APPEAR AS ZERO EMISSIONS ON THE DETAILED PERFORMANCE SHEET.

▲ AT 100% GROSS GENERATOR OUTPUT AND 77°F AMBIENT TEMPERATURE

Select Emissions

Aftertreatment Offered

select



NOx emissions in

lb/MWhe

CO emissions in

lb/MWhe

NMHC emissions in

lb/MWhe

- optional

PM emissions in

lb/MWhe

- optional

PM



SO₂ emissions in

lb/MWhe

- optional

GENERATOR/INVERTER

Choose Type

select



Multiple inverter manufacturers/model numbers can be specified under a single Packaged CHP system model number, on an "or equal" basis, provided the CHP efficiency, $[(\text{Net Power} + \text{Useful Thermal}) / \text{Fuel Input at 100\% capacity and at 59F}]$ does not vary more than $\pm 5\%$.

Manufacturer

optional alternate

optional alternate

optional alternate

optional alternate

Model

optional alternate

optional alternate

optional alternate

optional alternate

Power output rating (kW)

Power output rating
(kWA)

Rated voltage

Rated efficiency

Rated current

PROTECTIVE RELAY/SWITCHGEAR

Multiple protective relay manufacturers/model numbers can be specified under a single Packaged CHP system model number, on an "or equal" basis, provided the CHP efficiency, $[(\text{Net Power} + \text{Useful Thermal}) / \text{Fuel Input at 100\% capacity and at 59F}]$ does not vary more than $\pm 5\%$.

Protective Relay
Manufacturer/Model

optional alternate

optional alternate

optional alternate

optional alternate

Synchronization
Manufacturer/Model

optional alternate

optional alternate

optional alternate

optional alternate

HEAT RECOVERY

Type of Thermal Energy
Output

☐ Hot Water

☐ 15# Steam

☐ 125# Steam

☐ Chilled Water

SYSTEM AVAILABILITY

System

Availability (%)

CERTIFICATIONS - PROVIDE DOCUMENTATION THRU MAIN APPLICATION OVERVIEW PAGE IF YES

IEEE 1547
Compliant

select if IEEE 1547 Compliant



☐ UL 1741

☐ UL 2200

☐ California Air Resources Board (CARB) Certification

Other Certification (separate by
commas)

CANCEL

SUBMIT DATA