Scope of Supply & Recommended Interfaces 6 x *Siemens SGT-800 Gas Turbine Generator Sets Model Year: 2022/2023 – Units: 3 x 55.4 MW & 3 x 45.3 MW*

1. 1. Overview

The Siemens SGT-800 Generator Sets are supplied as integrated systems with auxiliary components, control systems, and defined mechanical, electrical, and instrumentation interfaces. The seller's supply scope includes all components within the gas turbine enclosure and mounted skids.

Typical Process & Instrumentation Diagrams (P&IDs) indicating supply interface points will be included in the technical documentation. Project-specific P&IDs will be issued during the detailed design phase.

2. 2. General Supply Scope

The seller will supply:

- Gas turbine enclosure and internal modules
- Skid-mounted auxiliary systems
- Internal piping, fittings, valves, and instrumentation
- Welded and flanged connections including counter flanges, gaskets, bolts, nuts
- Temperature/pressure sockets welded and heat-treated at factory
- Protective coatings and insulation (as per scope)
- Typical interface design documentation

Note: Natural gas piping between front and internal modules, site communication links, and trace heating are excluded. These remain the buyer's responsibility.

3. 3. Mechanical Interface Points

3.1 Natural Gas Supply

- Interface: Inlet flange at front module (incl. isolation valve, insulated joint)
- Buyer supplies gas pressure regulation module and interconnecting lines

3.2 Exhaust/HRSG Interface

- Interface: Exhaust diffuser outlet
- Expansion joint supplied by HRSG provider

3.3 Air Intake System

- Entirely within seller's scope; integration with structural design by buyer

3.4 Water Washing & Waste Systems

- Mobile washing cart connection, waste drain outlets at skid edge

3.5 Cooling & Lubrication Water

- Closed-loop interface at generator and lube oil cooler flanges

3.6 Compressed Air & N2 Purge

- Interface near GT enclosure and purge valve inlet

3.7 Foundation & Civil Interfaces

- Seller supplies foundation design requirements; execution by buyer

4. 4. Electrical Interfaces

4.1 Generator Output

- Interface: Terminal box busbar and flange
- Includes generator terminals, CTs, and grounding equipment

4.2 Excitation System

- Fully within seller scope

4.3 Protection & Synchronization

- Interface: Terminal blocks of respective panels

4.4 Cables and Cable Trays

- Seller provides internal cables/trays; external trays and installation by buyer
- Embedded conduit placement per seller's design

4.5 VFD & MCC Connections

- Interfaces: VFD transformer HV terminals, MCC input terminals

5. 5. Instrumentation & Control (I&C) Interfaces

- Field instrumentation, valves, and devices within gas turbine island supplied by seller
- Signal termination at local terminal/junction boxes
- Valve power supplies included
- All inter-system control signal interfaces terminate at defined terminal blocks

1. 2. Typical Supply Scope

Equipment for 12 Siemens SGT-800 Gas Turbine Generator Units and Auxiliary Systems *Model Years: 2022/2023*

The scope of supply includes 6 complete sets of Siemens SGT-800 gas turbine generator units, along with essential auxiliary equipment and components.

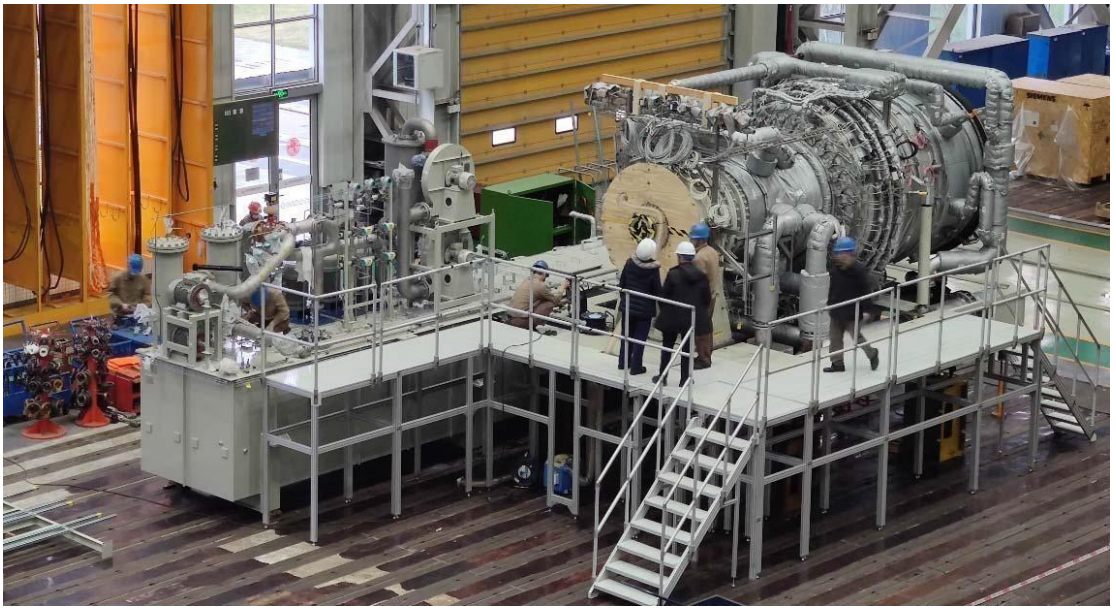
No.	Equipment	Description	Quantity (sets)
1	Gas Turbine	15-stage compressor, 3-stage turbine, 30 third-generation DLE combustors, ignition/flame monitoring, inlet guide vanes, bearings, fuel lines, cooling/sealing air, insulation, casing, etc.	3-6
2	Control System	Siemens SIMATIC control panel, PCST system, operator & engineer stations, printer, distributed I/O.	3-6
3	Main Gearbox	Parallel double-helical gearbox, rigid couplings, vibration/temperature sensors.	3-6
4	Generator	2-pole synchronous AC generator, air-water cooler, brushless exciter, HV terminals, PTs/CTs, dual AVR.	3-6
5	Generator Protection & Sync Panels	Control panels for generator protection and synchronization.	3-6
6	Fuel Gas Detection System	Hazardous gas detectors.	3-6
7	Starting & Barring System	1500kW low-voltage VFD motor, Siemens drive, SSS clutch.	3-6
8	MCC System	Redundant power supply, UPS, motor drives, SFC modules.	3-6
9	Local Control Room	Weatherproof enclosure with trays, HVAC, lighting; factory pre-tested.	3-6
10	Front Fuel Module	Coalescing separator, heaters (optional), drainage, instrumentation, insulation.	3-6
11	Internal Fuel Module	Flow meters, valves, stainless steel piping, insulation.	3-6
12	Lube Oil System	3×70% AC pumps, jacking pump, filters, heaters, monitoring instruments.	3-6
13	Lube Oil Cooler	Dual water-cooled stainless steel coolers with three-way valves.	3-6
14	Air Intake System	Rain hood, bird screen, mist eliminator, 3-stage filters, silencer, DP transmitters.	3-6
15	Acoustic Enclosure	Soundproof enclosure, lighting, 8-ton crane, ventilation system, filters.	3-6
16	Generator Enclosure	Weatherproof casing, manual crane, temperature monitoring.	3-6
17	Exhaust Diffuser	Includes insulation and sliding supports.	3-6
18	Fire Protection	IR and temperature detectors, CO_2 suppression system, control panel.	3-6
19	Compressor Wash System	Mobile cleaning system with pump, tank, hoses, and cart (shared).	3-6

No.	Equipment	Description	Quantity (sets)
20	DC Battery System	Batteries, cabinets, and HVAC systems.	3-6
21	Starting Transformer	10kV/690V dry-type transformer.	3-6
22	Embedded Installation Parts	Pre-installed foundation and mounting accessories.	3-6
23	Internal Cabling	Cables for equipment inside enclosures and skids.	3-6
24	On-site Piping	Lube oil and wash piping between components.	3-6
25	Mobile Oil Purifier	MS-8 grade oil filtration system (shared).	3-6
26	Initial Lube Oil Fill	ISO VG 46 lubricant, 1.1× fill ratio per unit (~38.6 m^3 for 2 units).	
27	Special Tools	Maintenance and rotor removal tools (shared).	3-6
28	Spare Parts	Spares for installation, commissioning, and early operation phase (shared).	3-6

> **Note:** Equipment brands may be optimized according to the seller's approved supply chain, with mutual agreement as needed.

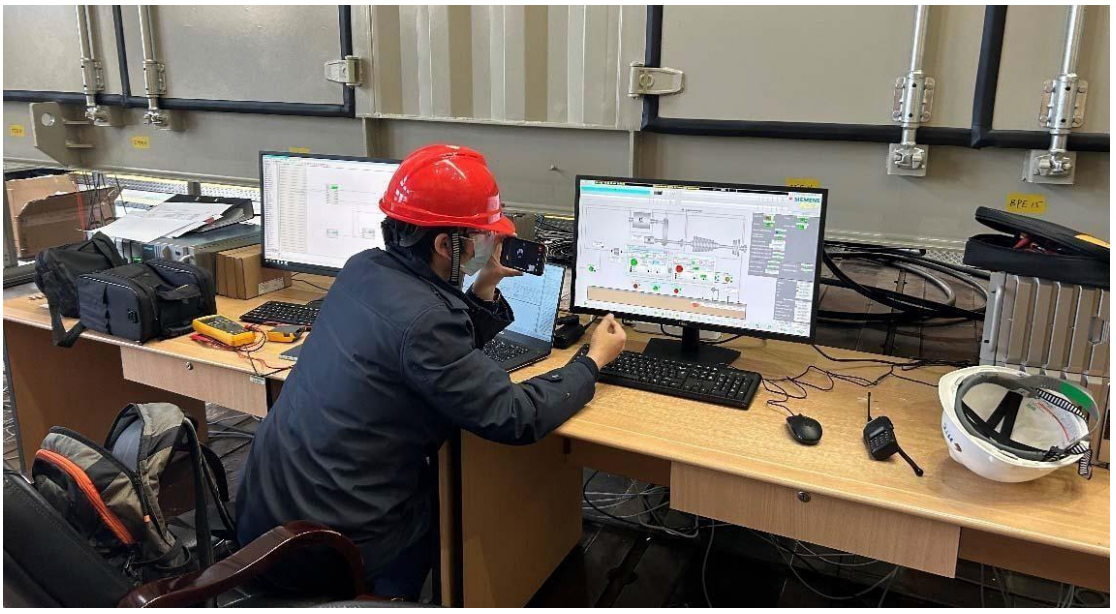
3. SGT-800 Photos

SGT-800 Ex-Factory Shipping Photos



Core Engine Skid

Local Control Room



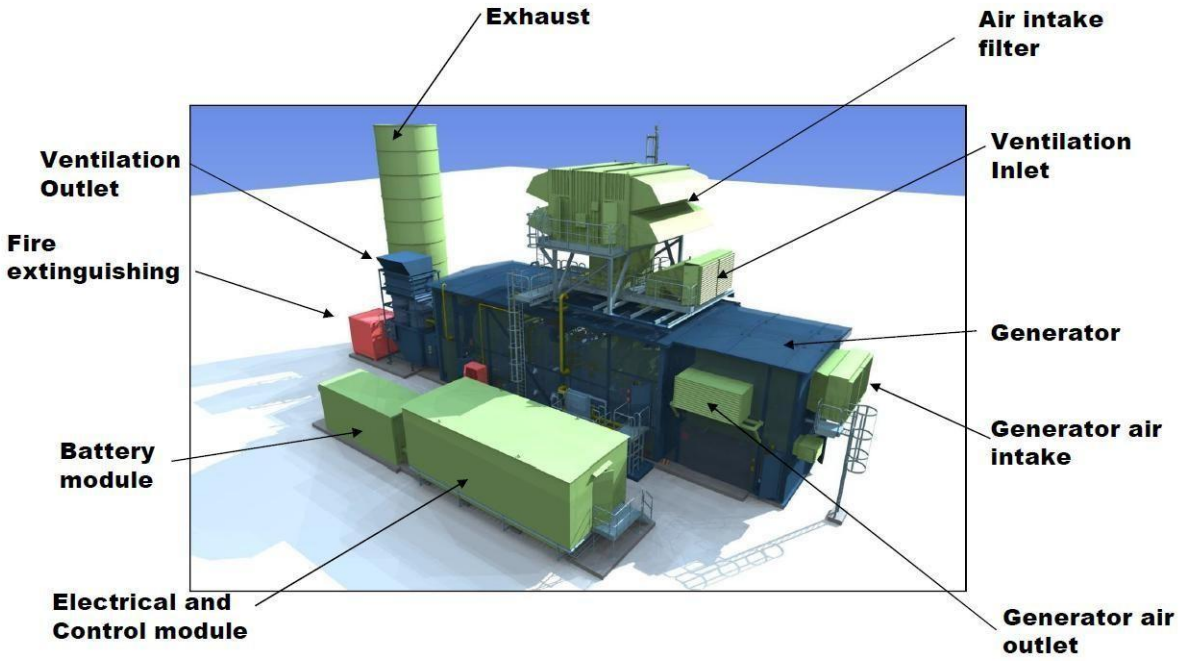
Workshop Commissioning

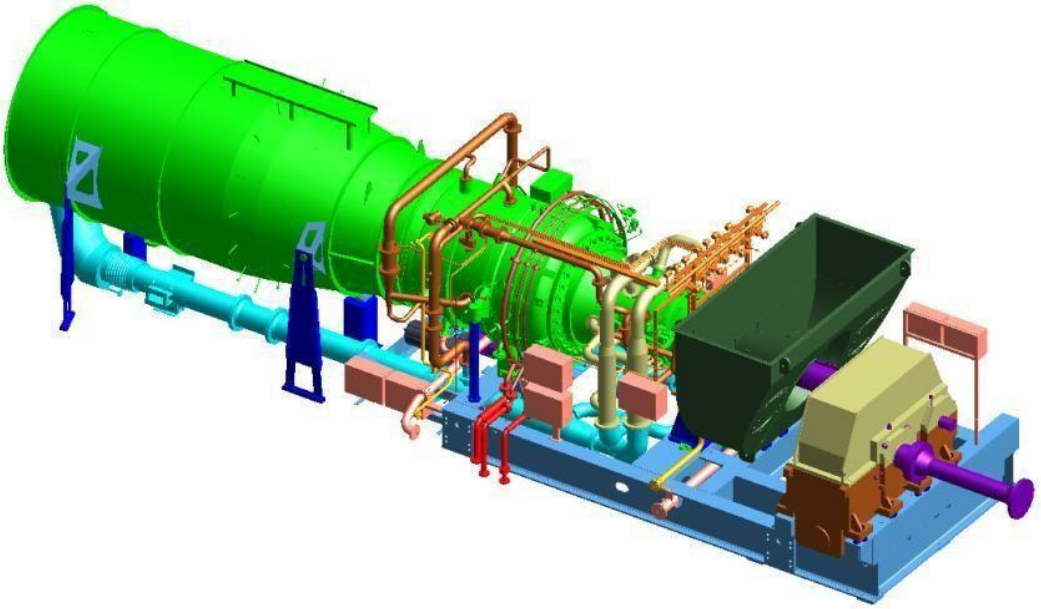
Lubrication Oil Station

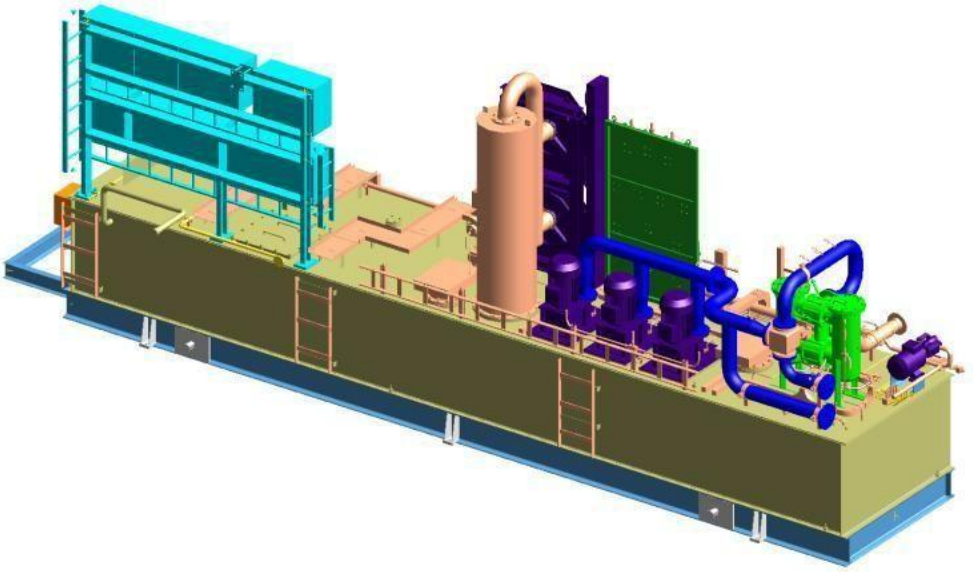
Air intake system

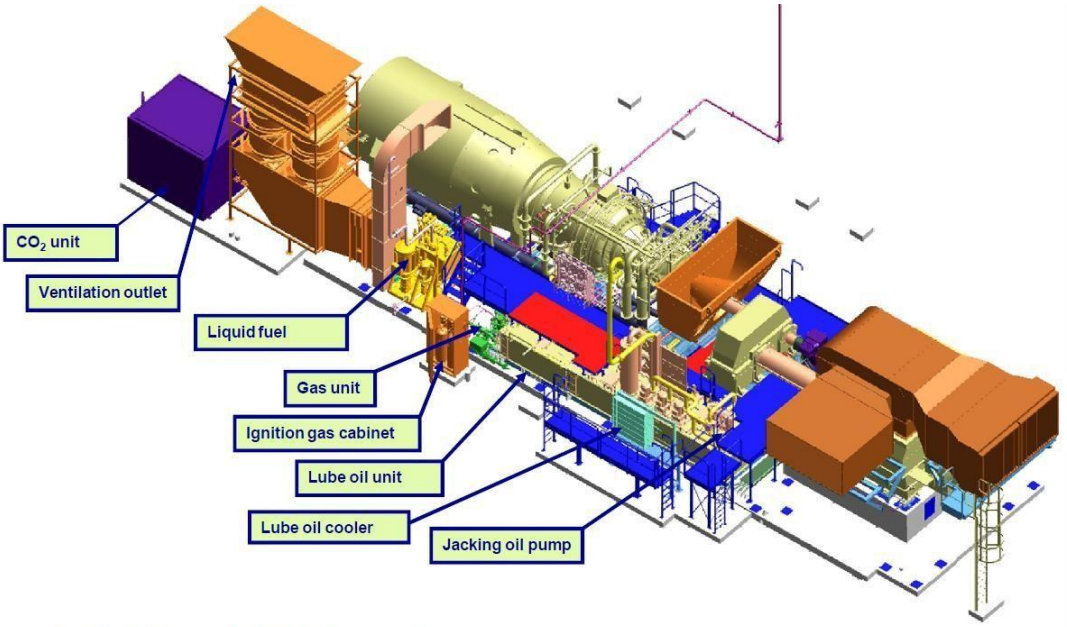
Distributed Project (SGT-800x4)

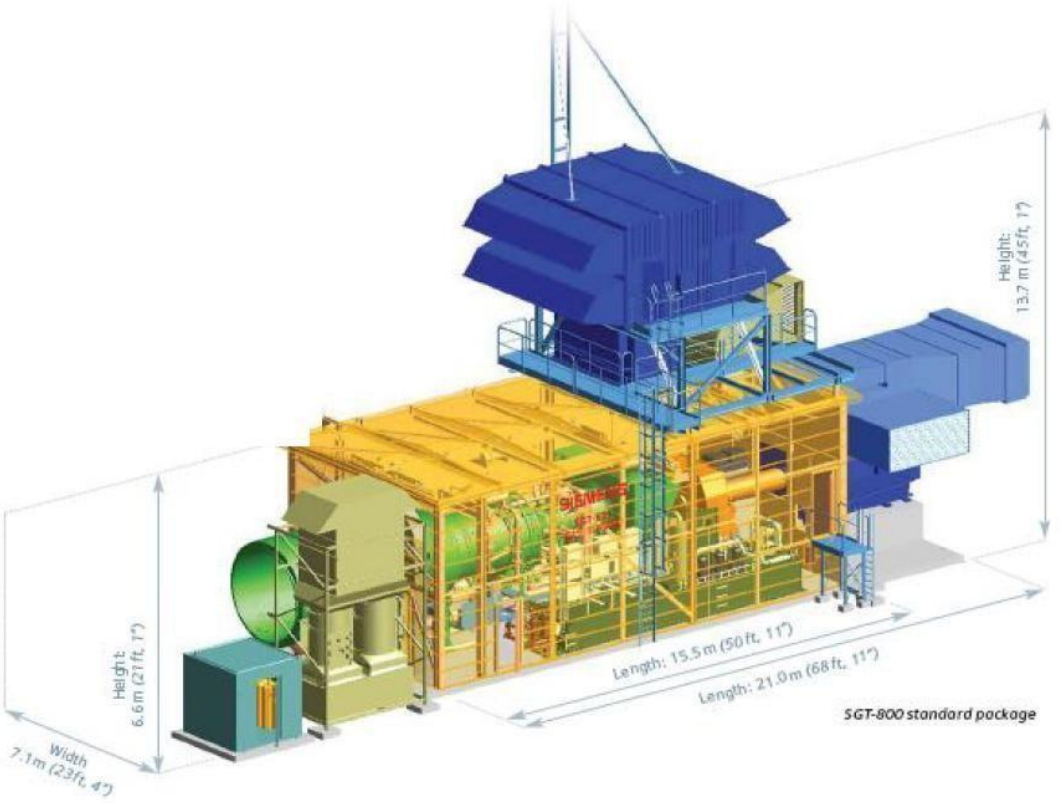
4. SGT-800 Classic package General Arrangement








CO_2 unit
Ventilation outlet
Liquid fuel
Gas unit
Ignition gas cabinet
Lube oil unit
Lube oil cooler
Jacking oil pump



5. Standard Reference Plant