GENERAL SYSTEMS DESIGN INC.

GSD POWER DIVISION

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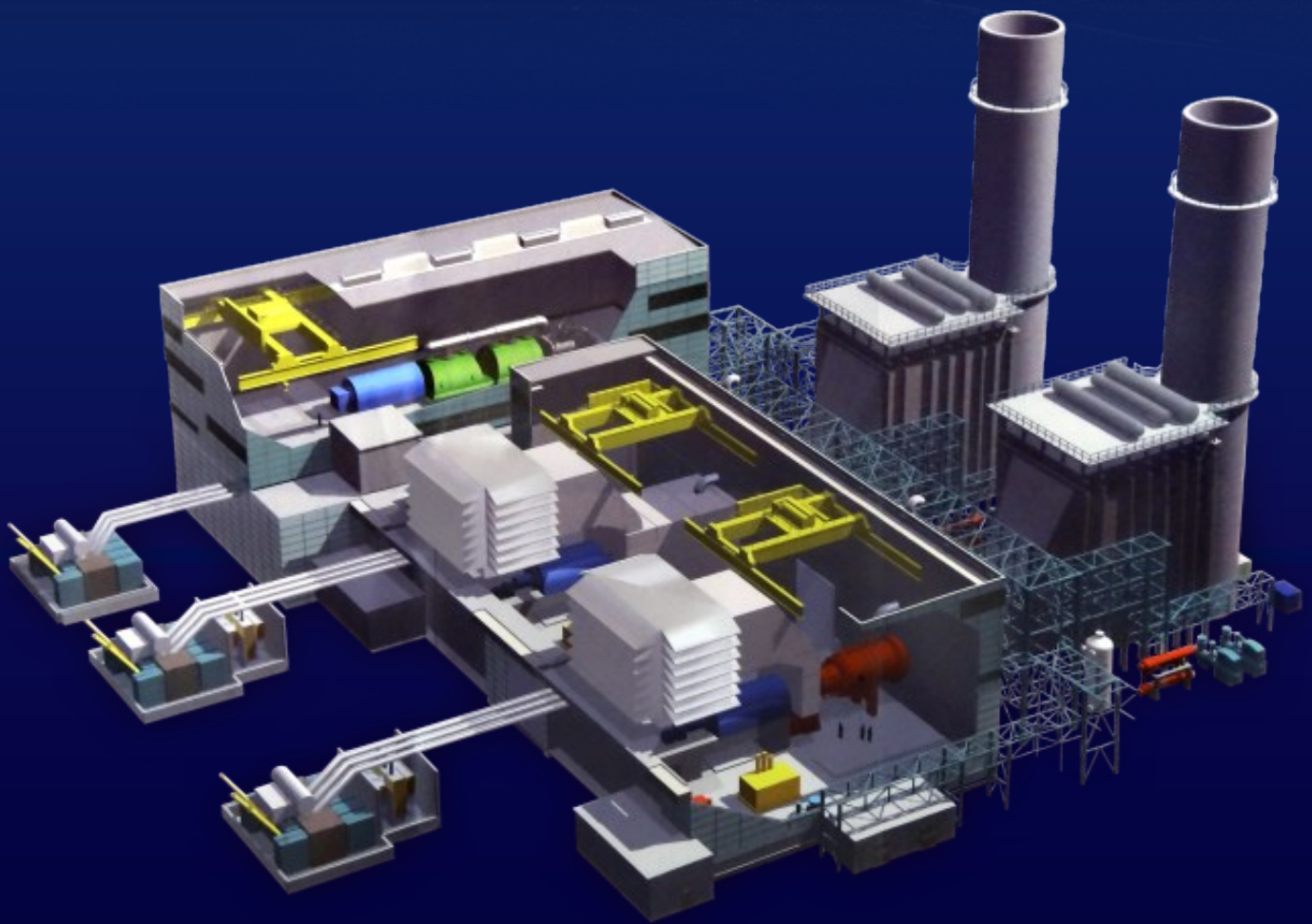
MASTER OF HEAT RECOVERY



Consulting | Engineering | Products

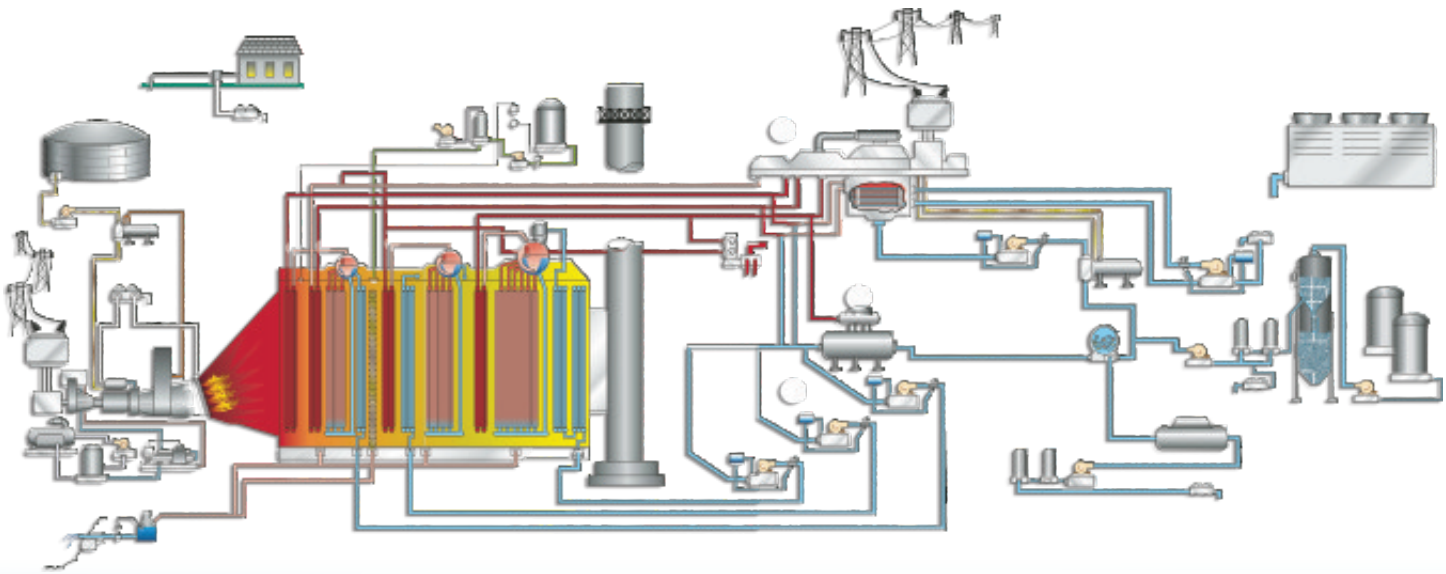
GENERAL SYSTEMS DESIGN INC.

GSD POWER DIVISION

EPC

for Combined Cycle Power Plants
for Co-Generation Plants
for Tri-Generation Plants

For your POWER and HEAT RECOVERY needs



HRSG Vendor

info@gsdas.com

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We provide our Customers with impeccable HRSG solutions.

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PROJECT	HP SH Co-Generation Plant - 130 MWe
LOCATION	Mersin, Turkey
GAS TURBINE	GE Frame 9E
HRSG	Nooter Eriksen (385 t/h / 41 bar / 440 C)
EPC Turnkey	Completed in 22 months

HRSG Vendor

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PROJECT	HP SH Co-Generation Plant - 135 MWe
LOCATION	Mersin, Turkey
GAS TURBINE	GE Frame 9E
HRSG	Nooter Eriksen (220 t/h/41 bar/440 C)
EPC Turnkey	Completed in 20 months

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PROJECT	Combined Cycle Power Plant - 120 MWe
LOCATION	Hereke, Turkey
GAS TURBINE	LM 6000 PC Sprint
HRSG	GSD (HP SH/LP SH)
EPC Turnkey	Completed in 22 months

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PROJECT	Combined Cycle Power Plant - 120 MWe
LOCATION	Bursa, Turkey
GAS TURBINE	LM 6000 PC Sprint
HRSG	GSD (HP SH/LP SH)
EPC Turnkey	Completed in 21 months

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for Combined Cycle Power Plants
for Co-Generation Plants
for Tri-Generation Plants

PROJECT	Tri-Generation Plant - 10,9 MWe
LOCATION	Istanbul, Turkey
GAS ENGINE	Rolls Royce KV18
HR ECON	GSD
EPC Turnkey	Completed in 18 months

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for Tri-Generation Plants

PROJECT	Co-Generation Plant - 8,3 MWe
LOCATION	Gaziantep, Turkey
GAS ENGINE	Rolls Royce BV20
HRSG	GSD (5 t/h / 10 bar)
EPC Turnkey	Completed in 18 months

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GSD POWER DIVISION

HRSG Vendor

for Combined Cycle Power Plants
for Co-Generation Plants
for Tri-Generation Plants

PROJECT	Combined Cycle Power Plant - 930 MWe
LOCATION	Bandırma, Turkey
GAS TURBINE	Mitsubishi 701F4
HRSG	Nooter Eriksen HP/IP/LP (Integrated Deaerator)
EPC Supply	Completed in 22 months (Two of the largest unfired HRSGs of the World)

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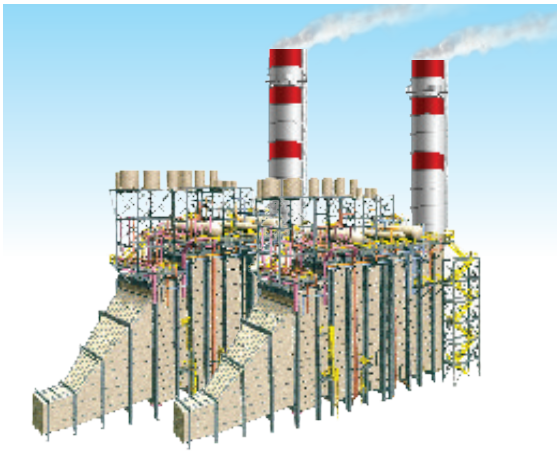
HRSG Vendor

for Combined Cycle Power Plants
for Co-Generation Plants
for Tri-Generation Plants



PROJECT	Combined Cycle Power Plant - 820 MWe
LOCATION	Antalya, Turkey
GAS TURBINE	2 off SIEMENS SGT5-4000F
HRSG	Nooter Eriksen

HRSG Vendor

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GSD POWER DIVISION

EPC

for Combined Cycle Power Plants
for Co-Generation Plants
for Tri-Generation Plants

PROJECT	Combined Cycle Power Plant - 120 MWe
LOCATION	Bursa, Turkey
GAS TURBINE	GE LM 5000
HRSG	NOOTER ERIKSEN (Supplementary Fired)
EPC SUPPLY	Completed in 22 months

HRSG Vendor

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GSD POWER DIVISION

HRSG Supplier

for Combined Cycle Power Plants
for Co-Generation Plants
for Tri-Generation Plants

PROJECT	Combined Cycle Power Plant - 230 MWe
LOCATION	GARDABANI, TBILISI / GEORGIA
GAS TURBINE	2 off GE Frame 6FA
HRSG	Nooter Eriksen / GSD
HRSG ISLAND Turn-key	Completed in 22 months (2013 - 2015)

HRSG Vendor

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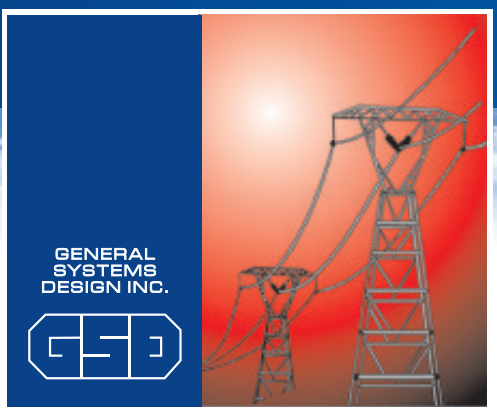

GSD POWER DIVISION

GENERAL SYSTEMS DESIGN

FRAME GT AND AERODERIVATIVE PROJECT SOLUTIONS

	PRODUCTS/EQUIPMENT	SERVICES
Equipment Equipment Performance Guarantees	• Gas turbine(s) and accessories • Steam turbine(s) and accessories • Generator(s) and accessories	Technical Advisory Services
Engineered Equipment Package Combined-Cycle Performance and Plant Operability Guarantees	• HRSG(s) w/exhaust stacks • Plant Control System (DCS) • Emissions Control Monitoring (CEMS) • Critical Control Valves (CCV) **Equipment + BOP** • Transformers GSU and auxiliaries • Isolated phase bus duct • HV and MV switchgear • Pumps and gas compressors • Fuel treatment equipment • Cooling tower(s) • Condenser(s)	• Plant engineering/coordination • Overall plant systems integration • Major BOP equipment functional definition • Critical systems detailed design • Plant controls implementation • Plant conceptual design, review and consultation • Technical direction and supervision • Vendor TAS • Plant start-up and commissioning management
Power Island Detailed Design Package	Power island construction packages	• Plant power island engineering and detailed design (civil/undergrounds, structural, mechanical, electrical and instrumentation) • Construction installation/erection support
Turnkey	Complete turnkey power plant BOP equipment and materials	• Construction management services • Site preparation and civil/structural works • Mechanical, electrical and instrumentation installation and erection services

GAS ENGINES ROLLS ROYCE PROJECT SOLUTIONS

	PRODUCTS/EQUIPMENT	SERVICES
Equipment	• Gas engine/genset • Gas train • Engine control panel • ORC Nooter Eriksen • Material stream	• Testing and commissioning together with Rolls Royce Bergen • Contractual Service Agreements by local Rolls Royce organization • O&M by local Rolls Royce organization • Transactional Field Service • Training
Extended Scope	• Cooling system • Containers • Silencer • Gas compressor • Steam boiler • Exhaust gas heat exchanger and HRSGs • Decoupling heat exchanger • Catalyst • Water pumps, TCV • Master control panel	
Turnkey	• Electrical BOP (LV, HV and protection of HV switchgear, transformers, alternators, earthing, etc.) • Mechanical BOP (exhaust gas stack, support structures, water and exhaust piping, oil tank, gas supply)	• Detailed engineering • Local approval • Inland transportation • Site supervision • Installation • Civil work

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