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energy

Benson[®] HRSG

Reference list
Updated: May 2023

References since 1999

No. Start of operation	Project Country	CCPP supplier	HRSR supplier HRSR type	Gas turbine	Configuration Power output	No. of HRSRs	HP steam p / bara T / °C
1 1999	Cottam UK	Siemens	Dt. Babcock horizontal	SGT5-4000F	s-sh ~ 390 MW	1	125 565
2 2007	Herdecke Germany	Siemens	Ansaldo horizontal	SGT5-4000F	m-sh 1:1 ~ 400 MW	1	125 565
3 2007	Hamm-Uentrop Germany	Siemens	Ansaldo horizontal	SGT5-4000F	2x s-sh ~ 800 MW	2	125 565
4 2010	Langage UK	Alstom	Alstom horizontal	GT26	m-sh 2:1 ~ 885 MW	2	160 585
5 2010	Lingen Germany	Alstom	Alstom horizontal	GT26	m-sh 2:1 ~ 850 MW	2	160 585
6 2010	Irsching 5 Germany	Siemens	STF horizontal	SGT5-4000F	m-sh 2:1 ~ 820 MW	2	125 565
7 2009	Sloe Centrale Netherlands	Siemens	CMI horizontal	SGT5-4000F	2x s-sh ~ 870 MW	2	125 565
8 2010	Severn Power UK	Siemens	CMI horizontal	SGT5-4000F	2x s-sh ~ 870 MW	2	125 565
9 2010	Gönyü Hungary	Siemens	STF horizontal	SGT5-4000F	s-sh ~ 400 MW	1	125 565
10 2010	Malzenice Slovakia	Siemens	STF horizontal	SGT5-4000F	s-sh ~ 400 MW	1	125 565
11 2010	Pego Portugal	Siemens	NEM horizontal	SGT5-4000F	2x s-sh ~ 870 MW	2	125 565
12 2011	Irsching 4 Germany	Siemens	Siemens horizontal	SGT5-8000H	s-sh ~ 530 MW	1	170 600
13 2012	Joetsu 1-3 Japan	Hitachi	BHK horizontal	GE F7FA+e	3x m-sh 2:1 ~ 1560 MW	6	150 565
14 2012	Joetsu 4 Japan	Hitachi	BHK horizontal	GE F7FA+e	m-sh 2:1 ~ 520 MW	2	150 565
15 2012	Lodi US	Siemens	N/E horizontal	SGT6-5000F	m-sh 1:1 ~ 284 MW	1	112 560
16 2013	Bugok 3 South Korea	Siemens	BHI horizontal	SGT6-8000H	s-sh ~ 400 MW	1	150 585
17 2014	Andong South Korea	Siemens	BHI horizontal	SGT6-8000H	s-sh ~400 MW	1	150 585
18 2014	Ansan South Korea	Siemens	BHI horizontal	SGT6-8000H	m-sh 2:1 ~ 820 MW	2	150 585
19 2014	Panda Temple 1 US	Siemens	NEM horizontal	SGT6-5000F duct firing	m-sh 2:1 ~ 700 MW	2	160 565

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20 2014	Sherman US	Siemens	NEM horizontal	SGT6-5000F duct firing	m-sh 2:1 ~ 700 MW	2	160 565
21 2016	Lausward Germany	Siemens	Siemens horizontal	SGT5-8000H	s-sh ~ 595 MW	1	170 600
22 2014/15	Posco 7-9 South Korea	Siemens	BHI horizontal	SGT6-8000H	3x s-sh ~ 1200 MW	3	150 585
23 2014/15	Daegu South Korea	Siemens	BHI horizontal	SGT6-8000H	s-sh ~ 400 MW	1	150 585
24 2015	Cengiz Samsun Turkey	Siemens	Doosan horizontal	SGT5-8000H	s-sh ~ 590 MW	1	170 585
25 2015	Panda Temple 2 US	Siemens	NEM horizontal	SGT6-5000F duct firing	m-sh 2:1 ~ 700 MW	2	160 565
26 2015	TNB Prai Malaysia	Samsung C&T	Doosan horizontal	SGT5-8000H	2x s-sh ~ 1150 MW	2	170 585
27 2016	San Gabriel Philippines	Siemens	NEM horizontal	SGT6-8000H	s-sh ~ 400MW	1	160 585
28 2016	Bandirma 2 Turkey	Siemens	NEM horizontal	SGT5-8000H	s-sh ~ 600 MW	1	175 600
29 2017	Dangjin 4 South Korea	Siemens	DKT horizontal	SGT6-8000H	m-sh 2:1 ~ 820 MW	2	150 585
30	Shaybah Saudi Arabia	SEPCO	NEM vertical	GE 7EA	2x m-sh 3:1 ~ 370 MW	6	92 537
31 2018	Beni Suef Egypt	Siemens	NEM vertical	SGT5-8000H	4x m-sh 2:1 ~ 9840 MW	8	165 585
32 2018	Burullus Egypt	Siemens	NEM vertical	SGT5-8000H	4x m-sh 2:1 ~ 9840 MW	8	165 585
33 2018	New Capital Egypt	Siemens	NEM vertical	SGT5-8000H	4x m-sh 2:1 ~ 9760 MW	8	165 585
34 2019	De Warnes Bolivia	Siemens	NEM vertical	SGT-800	4x m-sh 2:1 ~ 618MW	8	86 522
35 2019	Del Sur Bolivia	Siemens	NEM vertical	SGT-800	4x m-sh 2:1 ~ 618MW	8	86 522
36 2019	Entre Rios Bolivia	Siemens	NEM vertical	SGT-800	3x m-sh 2:1 ~ 477MW	6	86 522
37	El Campesino Chile	Siemens	NEM horizontal	SGT5-8000H	s-sh ~ 610 MW	1	175 600
38 2020	South Bangkok Thailand	Siemens	NEM vertical	SGT5-8000H	2x s-sh ~ 1200 MW	2	175 600
39 2023	Punjab Pakistan	CMEC	NEM horizontal	SGT5-8000H	m-sh 2:1 ~ 1250 MW	2	175 600

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40	Martano Panama	Shanghai Electric	Siemens HTT vertical	SGT-800	m-sh 6:1 ~ 380 MW	6	94 540
41 2022	Keadby 2 UK	Siemens	Siemens HTT vertical	SGT5-9000HL	s-sh ~ 890 MW	1	170 600
42 2022	Herne 6 Germany	Siemens	Siemens HTT horizontal	SGT5-8000H	m-sh 1:1 ~ 650 MW	1	160 600
43 2022	Estrella del Mar 3 Dominican Rep.	Siemens	IST vertical	SGT-800	m-sh 2:1 ~ 145 MW	2	85 540
44 2023	Yeoju South Korea	SK E&C	Siemens HTT horizontal	SGT6-9000HL	m-sh 2:1 ~ 1000 MW	2	170 600
45 2023	Hynix South Korea	SK E&C	Siemens HTT horizontal	SGT6-9000HL	2 x m-sh 1:1 ~ 1100 MW	2	170 600
46	FES Germany	Siemens Gamesa	Siemens HTT vertical	- (no CCPP)	ETES	1	
47	Ulsan South Korea	SK E&C	SE HTT horizontal	SGT6-9000HL	m-sh 2:1 ~ 1250 MW	2	175 600
48	Sun Ba Phase 2 Taiwan	Siemens Energy (abbr. SE)	SE HTT horizontal	SGT6-9000HL	m-sh 2:1 ~ 1250 MW	2	170 600
49	GNA 2 Brazil	Siemens	SE HTT horizontal	SGT6-9000HL	m-sh 3:1 ~ 1700 MW	3	170 600
50	Ostiglia Italy	Siemens Energy	SE HTT vertical	SGT5-9000HL	m-sh 1:1 ~ 900 MW	1	170 600
51	Komotini Greece	Terna S.A.	SE HTT vertical	SGT5-9000HL	m-sh 1:1 ~ 900 MW	1	170 600
52	Grudziadz Poland	Siemens Energy	JCE horizontal	SGT5-4000F	s-sh ~ 580 MW	1	170 585
53	Rybnik Poland	Siemens Energy	NEM vertical	SGT5-9000HL	m-sh 1:1 ~ 900 MW	1	170 600
						Total:	133

Abbreviations

CCPP	combined cycle power plant
HRSG	heat recovery steam generator
HP	high pressure stage
p	pressure
T	temperature
s-sh	single-shaft
m-sh	multi-shaft
ETES	electric thermal energy storage

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