

Replacement of Gas Turbine etc. in Yokohama Thermal Power Station

1. Outline of power station

(1) Address 11-1 Daikokucho Tsurumi-ku, Yokohama City

(2) Plant Chief Kiyoshi Murayama

(3) Site area Approx. 0.44 Mm²

(4) Output 3,406 MW

(5) Outline of facilities

Power generation facility	Outline	
Group 5 [*]	Output	175 MW
	Power generation system	Steam power generation
	Thermal efficiency	41.6%
	Fuel	LNG
	Start of operation	March, 1964
Group 6 [*]	Output	350 MW
	Power generation system	Steam power generation
	Thermal efficiency	42.2%
	Fuel	LNG
	Start of operation	June, 1968
Group 7	Output	1,427 MW (350 MW×3 units, 377 MW×1 unit)
	Power generation system	1300°C-class combined cycle power generation (ACC)
	Thermal efficiency	7-1, 3, 4 unit: 54.1% 7-2 unit: 55.8%
	Fuel	LNG
	Start of operation	January, 1998 (All units started operation) July, 2015 Replacement of 7-2 gas turbine
Group 8	Output	1,454 MW (350 MW×2 units, 377 MW×2 units)
	Power generation system	1300°C-class combined cycle power generation (ACC)
	Thermal efficiency	8-1, 2 unit: 54.1% 8-3, 4 unit: 55.8%
	Fuel	LNG
	Start of operation	January, 1998 (All units started operation) January, 2016 8-3 unit gas turbine was replaced May, 2016 8-4 unit gas turbine was replaced

*1 to 4 unit were stopped and 5 and 6 unit are under suspension in the long-term plan.

*Thermal efficiency indicates the standard of lower heating value

2. Replacement work plan of Group 7 and 8 Gas Turbine etc.

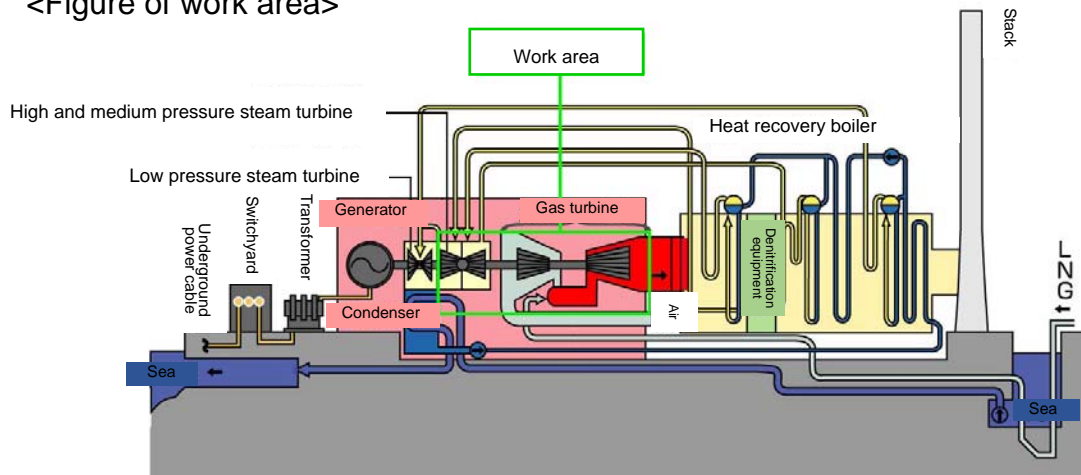
	Yokohama Thermal Power Station Group 7				Yokohama Thermal Power Station Group 8			
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4
Rated output	Each 350 MW→ 377 MW Total of 4 units 1,508 MW				Each 350 MW→ 377 MW Total of 4 units 1,508 MW			
Start date of operation	January, 1998				January, 1998			
Designed thermal efficiency (LHV)	54.1%→ 55.8%				54.1%→ 55.8%			
Type of power generation	LNG (ACC)				LNG (ACC)			
Timing of resumption after completion of work	Jul. 2016	Jul. 2015 (Completed)	Jul. 2017	Jan. 2017	Apr. 2017	Jan. 2018	Jan. 2016 (on a test run)	Apr. 2016

3. Detail of replacement work of gas turbine etc.

By replacing gas turbine and high and medium pressure steam turbine, improve generating efficiency and outputs.

Existing equipment will be used for heat recovery boiler, low pressure steam turbine, generator, and auxiliary equipment.

<Figure of work area>



<Picture of replacement work of gas turbine (Replacement of Unit 2 at Group 7)>



Lifting of the body of new gas turbine equipment



Lifting of new gas turbine equipment (Rotor)



Disassembling of gas turbine equipment

*For equipment countermeasures for fuel cost reduction in thermal power station, please see the

following website.

URL: <http://www.tepco.co.jp/fp/challenge/reduction/equipment/index-j.html>