<Appendix>

Overview of Kashima Thermal Power Station

1. Summary of power station

(1) Location 9, Touwada, Kamisu city, Ibaraki prefecture, Japan

(2) Station Chief Hirohisa Ishii

(3) Site area About 997,000 m^2

(4) Output and fuel

	Output	Fuel	Operation started in
Unit 1	600MW	Crude oil, Heavy oil	March 1971
Unit 2	600MW	Crude oil, Heavy oil	September 1971
Unit 3	600MW	Crude oil, Heavy oil	February 1972
Unit 4	600MW	Crude oil, Heavy oil	April 1972
Unit 5	1,000MW	Crude oil, Heavy oil	September 1974
Unit 6	1,000MW	Crude oil, Heavy oil	June 1975
Group 7	420MW x 3 Units	City gas	June 2014 *

* Commercial operation of Unit 1 of Group 7 started on May 1, 2014, and that of Unit 3 of Group 7 started on June 2, 2014.

(5) Overview of Group 7 facilities

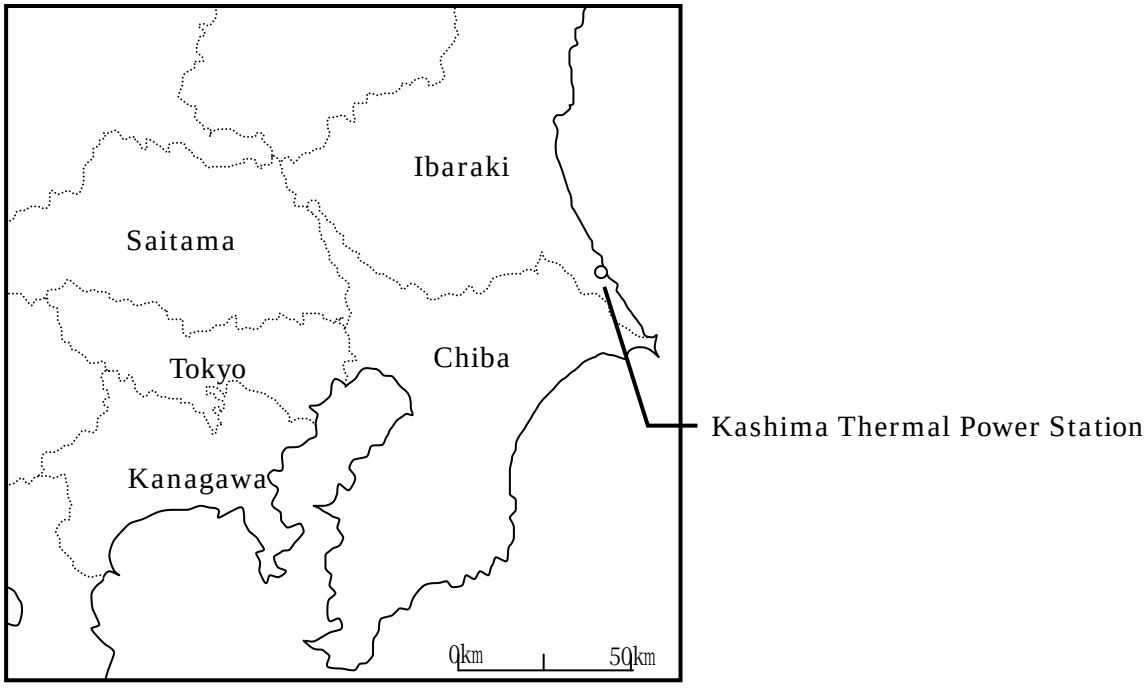
-Power generation system	1,300°C grade combined cycle type (ACC)
-Thermal efficiency	About 57% (based on lower heating value)
-Gas turbine	Simple open cycle single shaft type
-Air compressor	Axial flow compressor
-Heat recovery steam generator	Triple pressure reheat natural circulation type heat recovery steam generator
-Steam turbine	Two cylinder, single exhaust, condensing and reheat type
-Starting system	Thyristor starting system
-Generator	Horizontal shaft tubular type revolving field three-phase AC synchronous generator
-Smoke treatment facility	Exhaust gas denitration equipment: Dry ammonium catalytic reduction system Stack: 59 m, Single stack type

(6) Fuel City gas

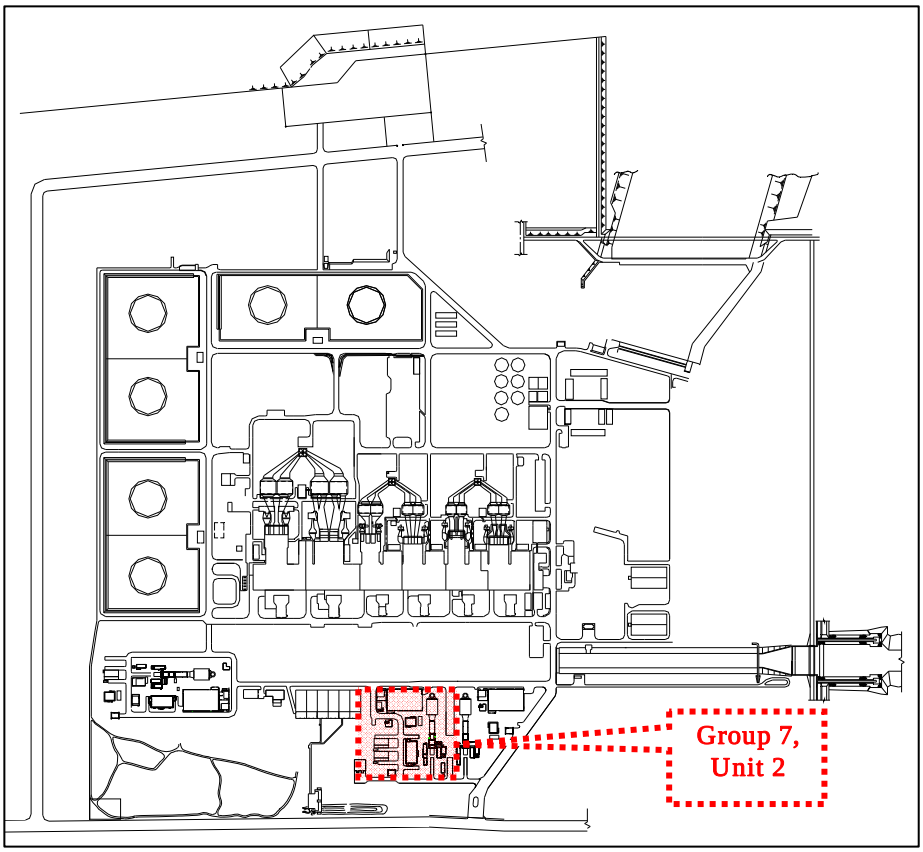
2. Construction history of Group 7, Unit 2

August 3, 2011	Gas turbine construction plan document was submitted (according to Article 48, Electricity Business Act).
March 29, 2012	Combined cycle construction plan document was submitted.
June 29, 2012	Gas turbine operation started.
February 5, 2014	Trial operation started.
June 18, 2014	Commercial operation started.

3. Location of the power station



4. Layout of power station (current)



5. View of the power station

<Before combined cycle construction>

<After combined cycle construction>

*Units 1 and 2 of Group 7 from left to right (Unit 3 is located outside the photo)

<Data 3> Power stations of combined cycle power generation at 1,500°C grade (MACC)

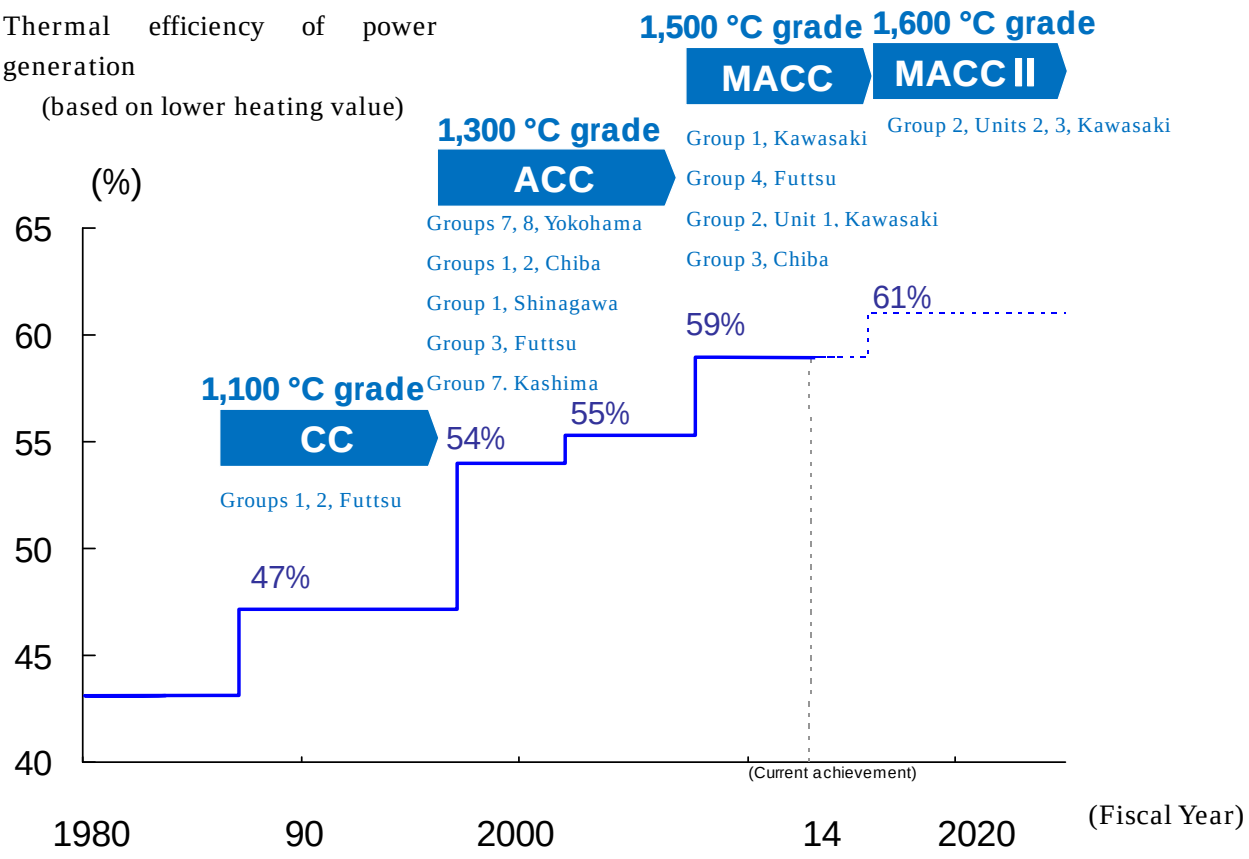
Power station name	Output	Thermal efficiency (%)	Operation started in
Group 1, Units 1 to 3, Kawasaki Thermal Power Station	500MW x 3 Units	58.6	February 2009
Group 2, Unit 1, Kawasaki Thermal Power Station	500MW x 1 Unit*	58.6	February 2013
Group 4, Units 1 to 3, Futtsu Thermal Power Station	507MW x 3 Units	58.6	October 2010
Group 3, Unit 1, Chiba Thermal Power Station	500MW x 1 Unit	About 58	April 2014

Planned power stations (MACC)

Power station name	Output	Thermal efficiency (%)	Operation will start in
Group 3, Units 2 and 3, Chiba Thermal Power Station	500MW x 2 Units	About 58	June and July 2014

*MACCII is under construction for Group 2, Units 2 and 3, Kawasaki Thermal Power Station.

<Data 1> Thermal efficiency improvement history



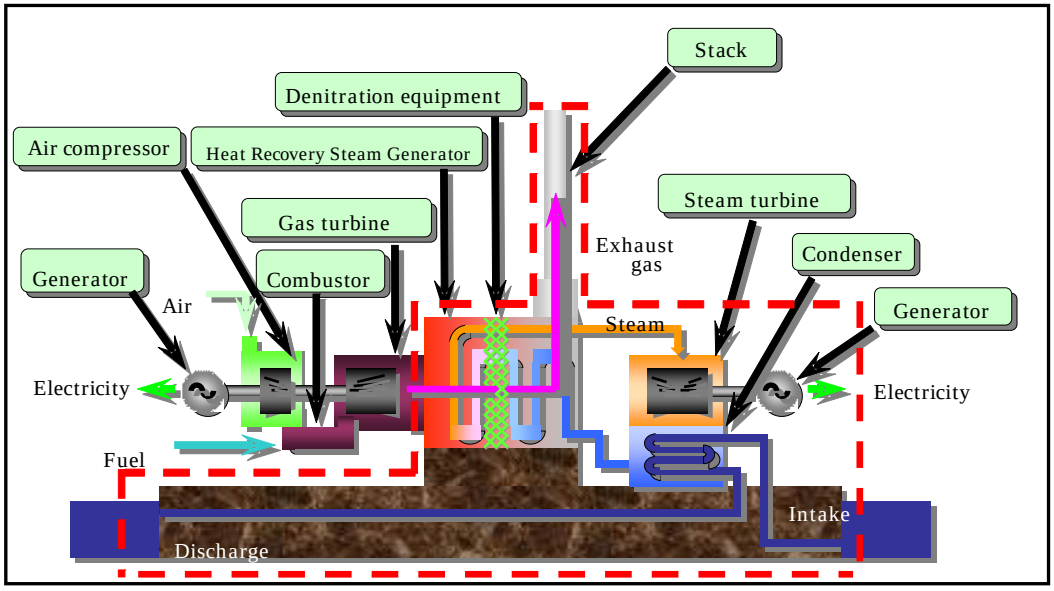
<Data 2> Power stations of combined cycle power generation at 1,300°C grade (ACC)

Power station name	Output	Thermal efficiency (%)	Operation started in
Group 3, Units 1 to 4, Futtsu Thermal Power Station	380MW x 4 Units	55.0	November 2003
Groups 7 and 8, Units 1 to 4, Yokohama Thermal Power Station	350MW x 8 Units	54.0	January 1998
Groups 1 and 2, Units 1 to 4, Chiba Thermal Power Station	360MW x 8 Units	54.0	June 2000
Group 1, Units 1 to 3, Shinagawa Thermal Power Station	380MW x 3 Units	55.0	August 2003
Group 7, Unit 1 to 3, Kashima Thermal Power Station	420MW x 3 Unit	About 57	June 2014

<Data 4> Change of gas turbine power generation facilities to combined cycle power generation facilities

Reconstruction to combined cycle power generation facilities is performed by adding a heat recovery steam generator, steam turbine and power generator to the gas turbine power generation facilities. This type of facility effectively utilizes the exhaust heat from the gas turbine to increase the output by about 460MW for Group 7, without consuming additional fuel, and improve the thermal efficiency. In addition, by installing exhaust gas denitration equipment in the heat recovery steam generator, the emission of nitrogen oxide during operations can be suppressed to reduce the impact on the environment.

[Construction areas for changing to combined cycle power generation facilities]



The facilities enclosed by the red line are the equipment newly installed for the change to combined cycle type facilities

The End