

Overview of Shin-Nagoya Thermal Power Station Group No. 8

1. Overview of Shin-Nagoya Thermal Power Station

(1) Location 34 Shiomi-cho, Minato-ku, Nagoya City

(2) Output

Power Generation Facility Name	Output
Group No. 7 (Units 7-1 to 7-6)	1.458 million kW (243,000 kW × 6 units)
Group No. 8 (Units 8-1 to 8-4)	1.5344 million kW (383,600 kW* × 4 units)

(Units 1 to 6 have already been discontinued)

* Share of output with all group units in operation is shown. Rated output (air temperature 5°C) is 400,000 kW.

(3) Fuel LNG

2. Features

(1) Highest level of thermal efficiency in the world

This system uses the single-shaft combined-cycle power generation method* using the most advanced 1,500°C-class gas turbine to achieve the world's highest level of thermal efficiency (approx. 58% based on the lower heating value).

This enables us to use limited energy resources effectively while at the same time reducing CO₂ emissions.

* This is the world's first application using 60-Hz equipment (3,600 rpm).

(2) Power Generation Facility with Low Environmental Burden

The fuel is LNG, which is clean and does not generate soot. The facility uses high-performance denitrification equipment and combustors that limit the generation of nitrogen oxides (NO_x). This keeps the concentration of NO_x emissions to 2.5 ppm or lower, which is half the previous level (5 ppm or lower at Shin-Nagoya Thermal Power Group No. 7).

The power plant achieves the highest thermal efficiency level worldwide to reduce CO₂ emissions and lower the environmental burden.

(3) Consideration for Scenic Views

Like existing Group No. 7, the turbine building has blue exterior walls decorated with a motif depicting the score of "Symphony No. 40 in G Minor, K. 550," composed by Mozart. The stack has a simple, modern design patterned after a high-rise building.

(4) Highly Advanced Automation

The power generation facility has control and monitoring functions that allow operation of everything from start-up to shut-down to be handled by a small number of personnel from a central control room.

3. Chubu Electric Power Generation Facility Capacity and Component Percentages

		Shin-Nagoya Thermal Unit 8-1 Before Starting Commercial Operation		Shin-Nagoya Thermal Unit 8-1 Before Starting Commercial Operation	
		Power Generation Facility Capacity (kW)	Component Percentage	Power Generation Facility Capacity (kW)	Component Percentage
Thermal	Coal	4,100,000	12.2	4,100,000	12.0
	LNG	14,379,000	42.7	14,713,400	43.3
	Oil	5,090,400	15.1	5,090,400	15.0
	Subtotal	23,569,400	70.0	23,903,800	70.3
	Nuclear	4,884,000	14.5	4,884,000	14.4
	Hydro	5,218,640	15.5	5,218,640	15.3
	Total	33,672,040	100.0	34,006,440	100.0

* Capacity only of Chubu Electric power generation facilities (does not include facilities of other companies from which we receive electrical power)

4. Construction History

July 1994 Included in Japan's electric power development master plan at the 127th session of the Electric Power Development Coordination Council (Shin-Nagoya Thermal Power Station Group Nos. 7 and 8 (1.458 million kW × 2))

* Commercial operation starting date for Group No. 8 later changed twice (construction postponed)

December 1998 Group No. 7 starts operation

March 2005 Notification of Group No. 8 construction schedule change for FY2005 power supply plan (construction resumes)

July 2005 Group No. 8 construction starts

April 2008 Unit 8-4 starts commercial operation

June 2008 Unit 8-3 start commercial operation

July 2008 Unit 8-2 start commercial operation

October 2008 Unit 8-1 start commercial operation (Renovation complete, full commercial operation slated to begin)

Thermal efficiency of power generation facilities and total thermal efficiency (lower heating value standard)

