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MINAMI-YOKOHAMA THERMAL POWER STATION

WELCOME TO MINAMI-YOKOHAMA THERMAL POWER STATION!

The world's first LNG single fuel firing thermal power station

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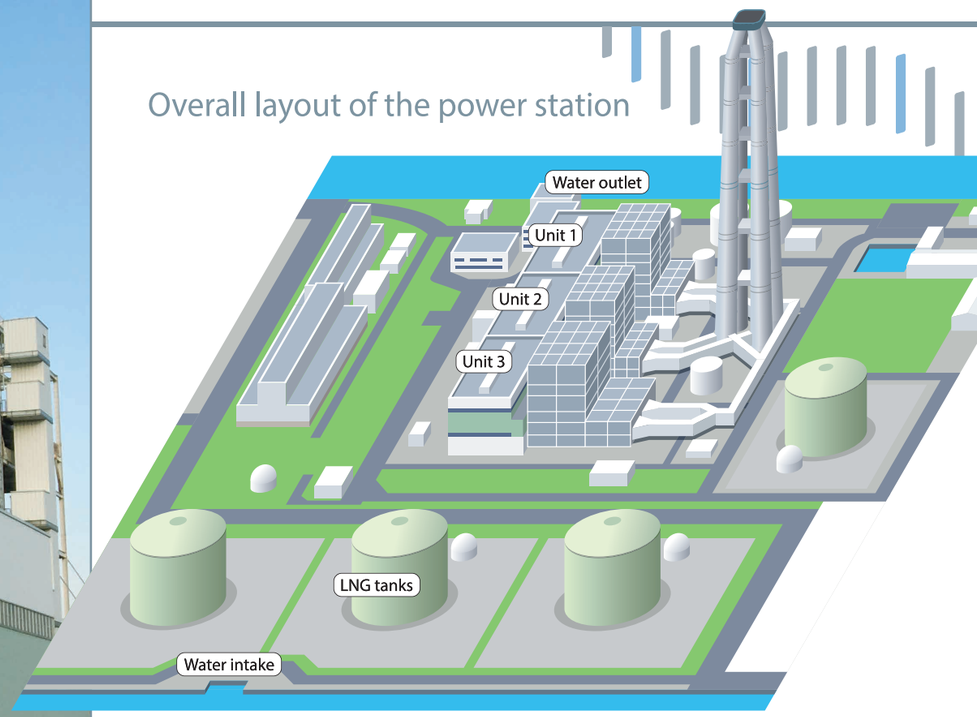
The Minami-Yokohama Power Station was the world's first thermal power plant to adopt LNG as its fuel. Units 1 and 2 went into operation in 1970 and were followed by Unit 3 in 1973. We have been able to perform efficient plant operations, hand in hand with neighboring Tokyo Gas Co., Ltd., including receipt, storage and vaporization of gas in a seamless manner. Running on conventional steam power generation equipment, Minami-Yokohama is considered important because of its ability to adjust to changes in power demand by shutting down or restarting generators with ease.

Overall layout of the power station



Outline of facilities

Unit No.	Output (MW)	Fuel	COD	Power generation type
Unit 1	350	LNG	May 1970	Steam
Unit 2	350		April 1970	
Unit 3	450		May 1973	

Name: Minami-Yokohama Thermal Power Station

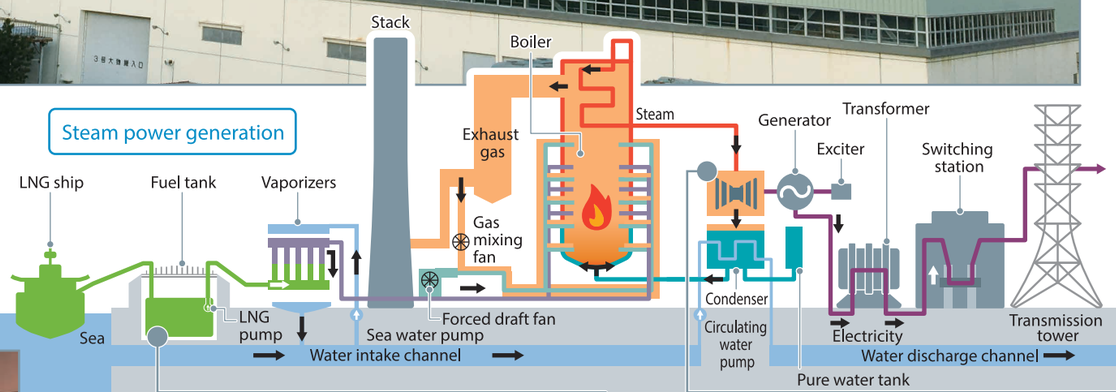
Location: Isogo-ku, Yokohama City, Kanagawa Prefecture Site area: Approx. 170,000 m²

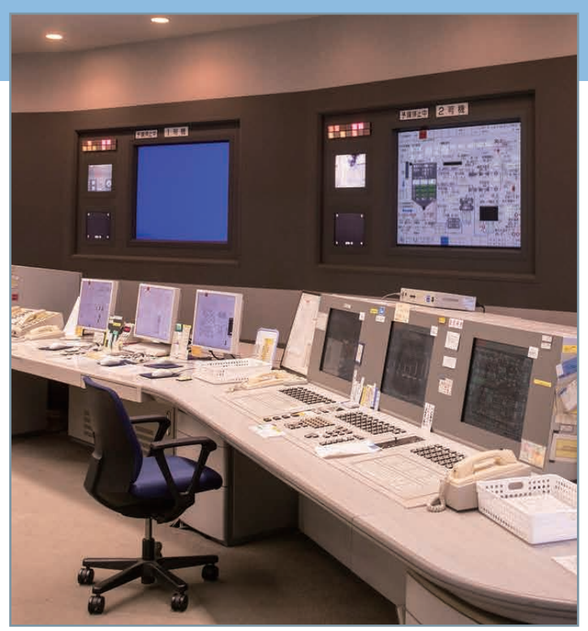
CHECK!
Features

Old and new central control panels

The control panel has been changed from the manual operation type to the automatic operation type. A new control panel has been installed, so there are two control panels, the old one and the new one, in place.

Steam power generation





Central control room

Operators intensively operate, control, and monitor the overall operating status of the power station 24 hours a day in two shifts.

LNG aboveground tank

Each LNG aboveground tank has a double-shell structure (inner tank and outer tank). The space between the inner and outer tanks is filled with granular perlite for cold insulation and with nitrogen to prevent negative pressure. For cold insulation at the bottom, perlite concrete is used as thermal insulation and reinforcing material. Aluminum alloy is used as the structural material for the inner tank to withstand the ultra-low temperature of –162°C.

Steam turbine

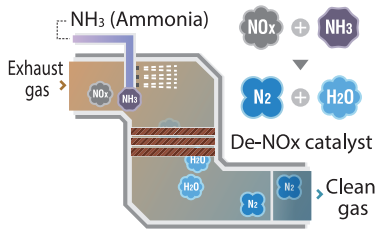
A steam turbine converts the energy of high-temperature, high-pressure steam into mechanical energy. The blades are processed to attain a special curved asymmetric profile design based on fluid mechanics to maximize the performance.

Environmental Initiatives

Preventing air pollution

The power station is fueled with LNG and therefore does not discharge SOx which are the cause of particulate matter and acid rain. The use of low-NOx burners and exhaust gas denitration equipment has also reduced the discharge of nitrogen oxides. The white smoke rising from the plant stacks on cool days is steam.

Exhaust gas denitration equipment (removal of NOx)



Ammonia is injected into the exhaust gas. The de-NOx catalyst stimulates a chemical reaction that turns the nitrogen oxides into harmless nitrogen and water.

Keeping the oceans clean

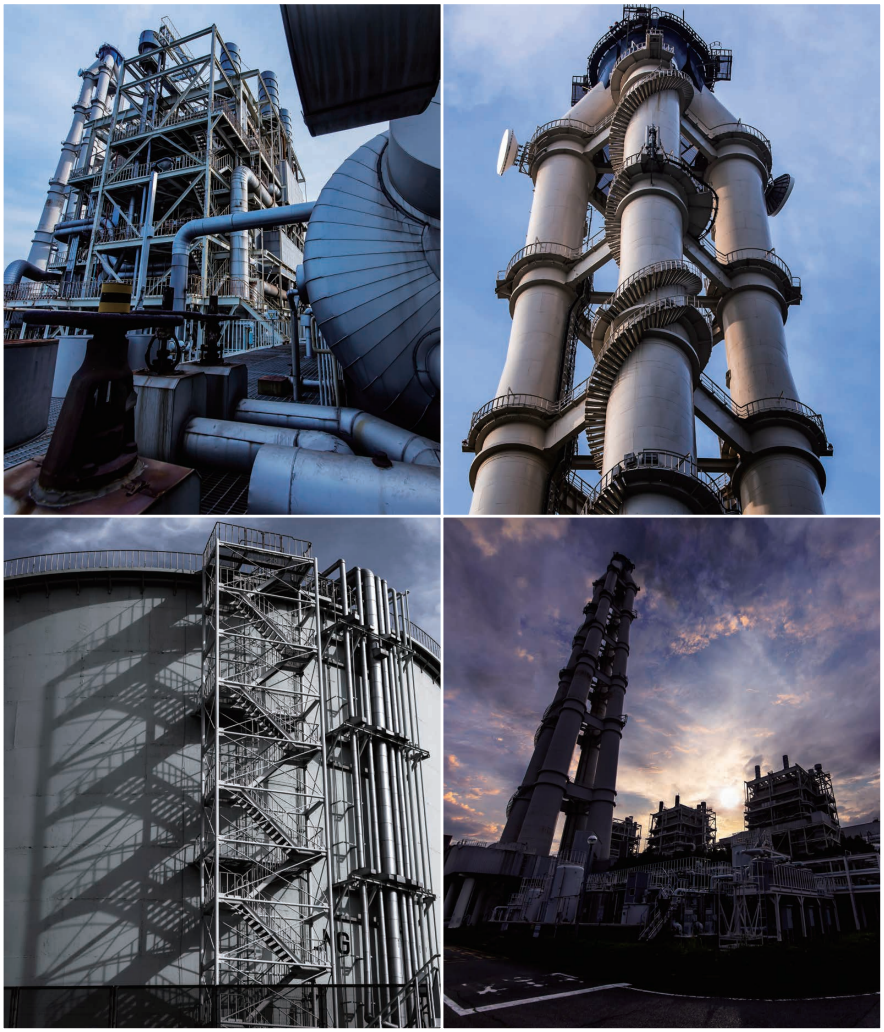
The equipment cleaning water and general waste water generated at the power station undergoes pre-processing such as oil separation and neutralization. It is then purified by means of condensation, sedimentation, filtration and neutralization, and the water quality is checked before it is discharged.

Protecting the global environment

Since power stations make use of the earth's enriched resources, it is important to achieve high level of thermal efficiency when generating electricity due to preservation of the global environment. In addition, greater generating efficiency means that less carbon dioxide, which causes global warming, is produced. We are committed to conserve the earth's finite resources and curb global warming by leveraging the technical capabilities we have accumulated over the years and by introducing highly efficient power generating equipment.

Activities as a peaker load plant

When this power station first went into operation in 1970, it was a baseload plant that was the first in the world to run exclusively on LNG. Later, as time passed, newly-built power stations offered greater thermal efficiency, and these highly-efficient plants became the baseload suppliers. As a result, the role of this plant was changed, and it now serves as a peaker load plant, namely one that supplies electricity when demand is high. With natural forms of energy such as solar and wind power proliferating, its role as a peaker load plant has become increasingly important as the amount of power it can generate is not affected by the weather. Going forward, the plant will continue to adapt to social changes by experimenting with various modes of operation to ensure that customers always have access to low-cost electricity.



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