Report

The Ohma Nuclear Power Plant

Seeking Trusted Power Plants

Introduction

The J-POWER Group is engaged in construction of the Ohma Nuclear Power Plant in Ohma-machi, Shimokita-gun, Aomori Prefecture.

From the perspective of steady energy supply, nuclear power is an essential and indispensable source of energy for our island country with poor natural resources. It is also a source of energy that provides an effective countermeasure to global warming.

We consider it is necessary for nuclear power to continue fulfilling a constant role in Japan's electric power supply because nuclear power can be an effective source of energy with adequate safety management measures, needless to say, should be taken.

We have proceeded with the Ohma Nuclear Power Plant project in accordance with national government policy, with the understanding and cooperation of Aomori Prefecture and the local residents of Ohma-machi, Kazamaura-mura and Sai-mura, and with the necessary permits and approvals in hand. It is a key power plant that will perform crucial roles both in the stable provision of a highly safe and reliable supply of electric power achieved through the use of cutting-edge technology and the nuclear fuel cycle for reuse of plutonium and uranium obtained through reprocessing of spent fuel.

J-POWER has taken the lessons of the accident at the Fukushima Daiichi Nuclear Power Station to heart. We will proceed with steady implementation of safety measures and practices in light of the new safety standards, making the fullest use of the experiences and the latest technical findings. In this way, we will build power plant that earns the trust of local and regional communities.

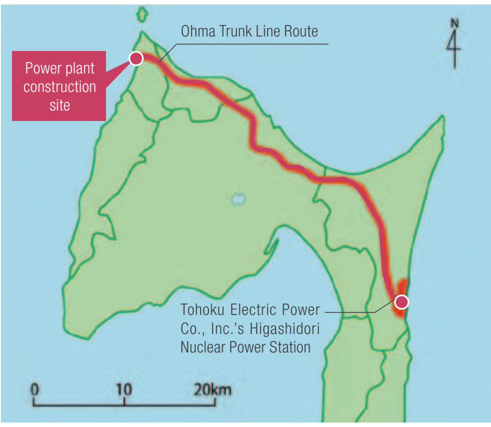
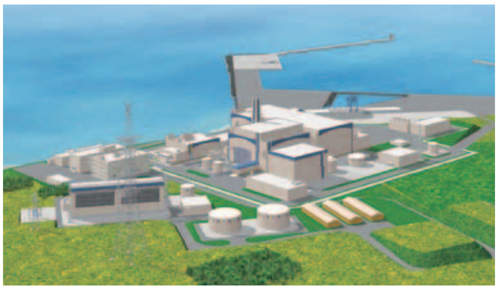


Diagram of Ohma Nuclear Power Plant location (Aomori Prefecture)

Panoramic view of construction work on Ohma Nuclear Power Plant (Aomori Prefecture)



Rendering of the completed power plant

Plan Overview

Location		Ohma-machi, Shimokita-gun, Aomori Prefecture
Construction begins		May 2008
Commercial operation begins		To be determined
Output		1,383 MW
Reactor	Type	Advanced boiling water reactor (ABWR)
	Fuel: Type	Enriched uranium and uranium-plutonium mixed oxide (MOX)
	Fuel assembly	872 elements

Pursuing Safety Improvements

We are reinforcing safety measures at the Ohma Nuclear Power Plant based on the latest knowledge including lessons learned from the accident at the Fukushima Daiichi Nuclear Power Station and the results of the geological investigations of the plant site and neighboring areas that have been conducted continuously since permission to build this nuclear reactor was obtained in April 2008.

We are strengthening earthquake and tsunami countermeasures and taking measures to prevent any damage to the reactor core and reactor vessel even in the case of a severe accident. We are also implementing all measures in current construction in anticipation of a terrorism incident such as the intentional crash of an aircraft.

In addition, we are conducting programs to raise awareness of safety (activities to foster safety culture) with "raising awareness of each individual to consider safety" as their theme, including issuing messages from the president, holding presentations and discussions of best practices and providing opportunities for executives to exchange opinions.

Going forward, we will not allow ourselves to be satisfied with simply complying with regulatory requirements, but will undertake voluntary safety measures and strive tirelessly to enhance safety.

Application for Review of Compliance with New Safety Standards

J-POWER submitted an application for permission for alternation of reactor installment license and an application for construction plan approval to the Nuclear Regulatory Authority in December 2014 in order to undertake a review of compliance with the new safety standards at the Ohma Nuclear Power Plant by the Nuclear Regulatory Authority.

These applications are procedures pursuant to The Law on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (Nuclear Reactor Regulation Law) and are part of the safety review process for the Ohma Nuclear Power Plant.

In the future, we will respond appropriately to the review by the Nuclear Regulatory Authority.

Harmony with the Local Community

We are pursuing a variety of initiatives at the Ohma Nuclear Power Plant construction site to deepen the understanding of the Ohma Nuclear Power Plant and energy and to foster a greater sense of familiarity with J-POWER by members of the local community.

We issue monthly newsletters to all households in the region, conveying information on local issues as well as the construction plan, status of construction and measures to reinforce safety. In addition, all plant personnel make individual visits to local residences twice each year. We sponsor science classes and cooperate with schools to conduct field trips of geology for elementary and junior high school students and conduct energy education for high school students, providing continuous support for education.

As a member of the local community, we participate in local festivals and other events and conduct programs such as cleanup campaigns in towns. Going forward, we will continue to engage in a wide range of activities while placing particular importance on our relationships with local residents.

Employees participate in a local cleanup program

Measures to Reinforce Safety for Ohma Nuclear Power Plant (Overview)

To confirm compliance with the new safety standards, in December 2014 J-POWER submitted an application for permission for alteration of reactor installment license and an application for construction plan approval to the Nuclear Regulatory Authority summarizing the details of measures to reinforce the safety of the Ohma Nuclear Power Plant.

We will implement all measures during construction to ensure that we build a safe power plant.

Measures to Reinforce Safety

1. Measures to Design Basis Accidents

Earthquake Proofing

We adopted a new standard seismic motion based on the latest findings and other factors. The adopted standard seismic motion is a maximum acceleration of 650 cm/s² (previously 450 cm/s²). Earthquake-proof designs for building and other structures were adopted based on this standard seismic motion.

Tsunami Countermeasures

We also adopted the following design basis tsunami based on the latest findings. We estimated that the maximum height of a tsunami at the site based on the following design basis tsunami is T.P. +6.3 m (previously +4.4 m), but the elevation of the power plant site is T.P. +12 m, and consequently, there is no likelihood of a tsunami reaching and following into the site.

From the perspective of enhancing confidence even further, we will implement independent measures including construction of seawalls and installation of waterproof exterior doors and so on.

Measures to Prevent Damage from External Impact

(1) We assessed the impact of natural phenomena (volcanic eruptions, tornados, external fires, etc.) on the nuclear power station.

Fire Protection

(2) We will enhance fire protection measures including use of fire-resistant cables and construction of firewalls.

Internal Flooding Resistance Measures

(3) We will reinforce resistance measures against leaks to protect facility functions in anticipation of damage to pipes within the facility.

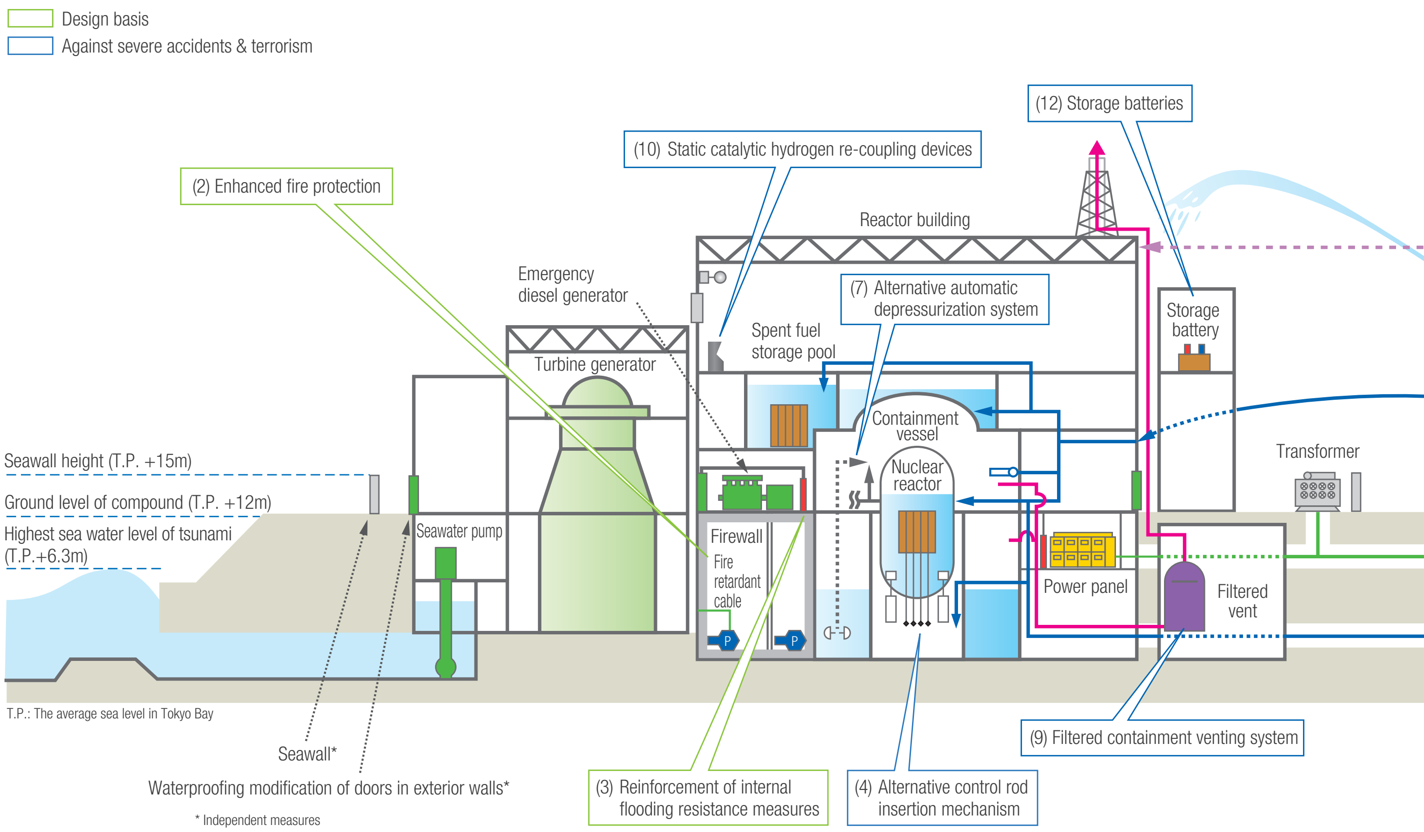
2. Against Severe Accidents & Terrorism

To prevent damage to the nuclear reactor and containment vessel, we will implement the following measures.

Measures to Prevent Core Damage and Containment Vessel Failure

(4) Even in the case where nuclear reactor emergency shutdown equipment does not operate, an alternative control rod insertion

Image of Measures to Reinforce Safety at Ohma Nuclear Power Plant



mechanism that can be operated by separate circuits or manually will be installed to enable shutdown of the nuclear reactor.

(5) Permanent alternative water injection facilities will be installed to cool the nuclear reactor, containment vessel, and spent fuel storage pool.

(6) Mobile alternative water injection pumps will be available to cool the nuclear reactor, containment vessel, and spent fuel storage pool.

(7) An alternative automatic depressurization system will be installed to reduce pressure in the nuclear reactor.

(8) Heat exchanger units will be installed to release generated heat.

(9) A filtered containment venting system*1 will be installed to prevent damage from excess pressure in the containment vessel.

(10) Static catalytic hydrogen re-coupling devices*2 will be installed to prevent damage from hydrogen explosions in the reactor building.

(11) Water spraying facilities will be installed to control the dispersion of radioactive material outside the power station.

Reinforcement of Power and Water Supplies

(12) To ensure power supplies, air-cooled emergency generator and gas turbine generator will be installed, the capacity of existing storage batteries will be increased, additional batteries will be installed, and a power supply vehicle will be made available.

(13) Water storage tanks will be installed to secure a water source necessary for resolution of severe accidents.

Insuring Support Functions of the Control Room

(14) An emergency response office will be created to respond to severe accidents.

(15) Communications facilities will be reinforced to ensure communications with necessary locations inside and outside the power station.

(16) Mobile monitoring posts will be established to monitor, measure and record the concentration and radioactivity of radioactive material in the vicinity of the power station.

Countermeasures against Intentional Aircraft Crashes

(17) Specified severe accident response facilities will be established to control the abnormal external release of radioactive material in the event of the intentional crash of a large aircraft into the reactor buildings or other terrorist attacks.

*1. Filtered containment venting system:
A system that controls the release of radioactive material and releases steam from the containment vessel into the atmosphere in order to prevent damage to the containment vessel in the event of an excessive increase in pressure inside the nuclear reactor containment vessel.

*2. Static catalytic hydrogen re-coupling devices:
A system that uses a catalyst to cause a chemical reaction between hydrogen molecules and oxygen molecules to generate water vapor in order to prevent an increase in hydrogen concentration that could result in a hydrogen explosion in the event that damage to the reactor core occurs, causing hydrogen to leak inside the reactor building and the concentration of hydrogen to increase.