From the perspective of securing a stable energy supply, given Japan's few mineral resources, nuclear power generation is an important baseload power source. Moreover, as it emits no CO_2 during power generation, nuclear power is an excellent method of power generation in terms of preventing global warming.

The fuel it consumes, uranium, has a high energy density and can be used continuously for a long period after being loaded into the nuclear reactor core. Furthermore, spent fuel can be reprocessed and used as fuel again (via the nuclear fuel cycle), making it a quasi-domestically sourced energy resource.

Nuclear power plants are commonly able to use up to about one-third uranium-plutonium mixed oxide (MOX) fuel. Because the Ohma Nuclear Power Plant will be able to operate using only MOX fuel, it will play an important role in the nuclear fuel cycle.

While constantly striving to further enhance safety, we are steadily advancing the Ohma Nuclear Power Plant Project.

Social Issues

- Stable energy supply
- Raising Japan's energy self-sufficiency rate
- Global warming

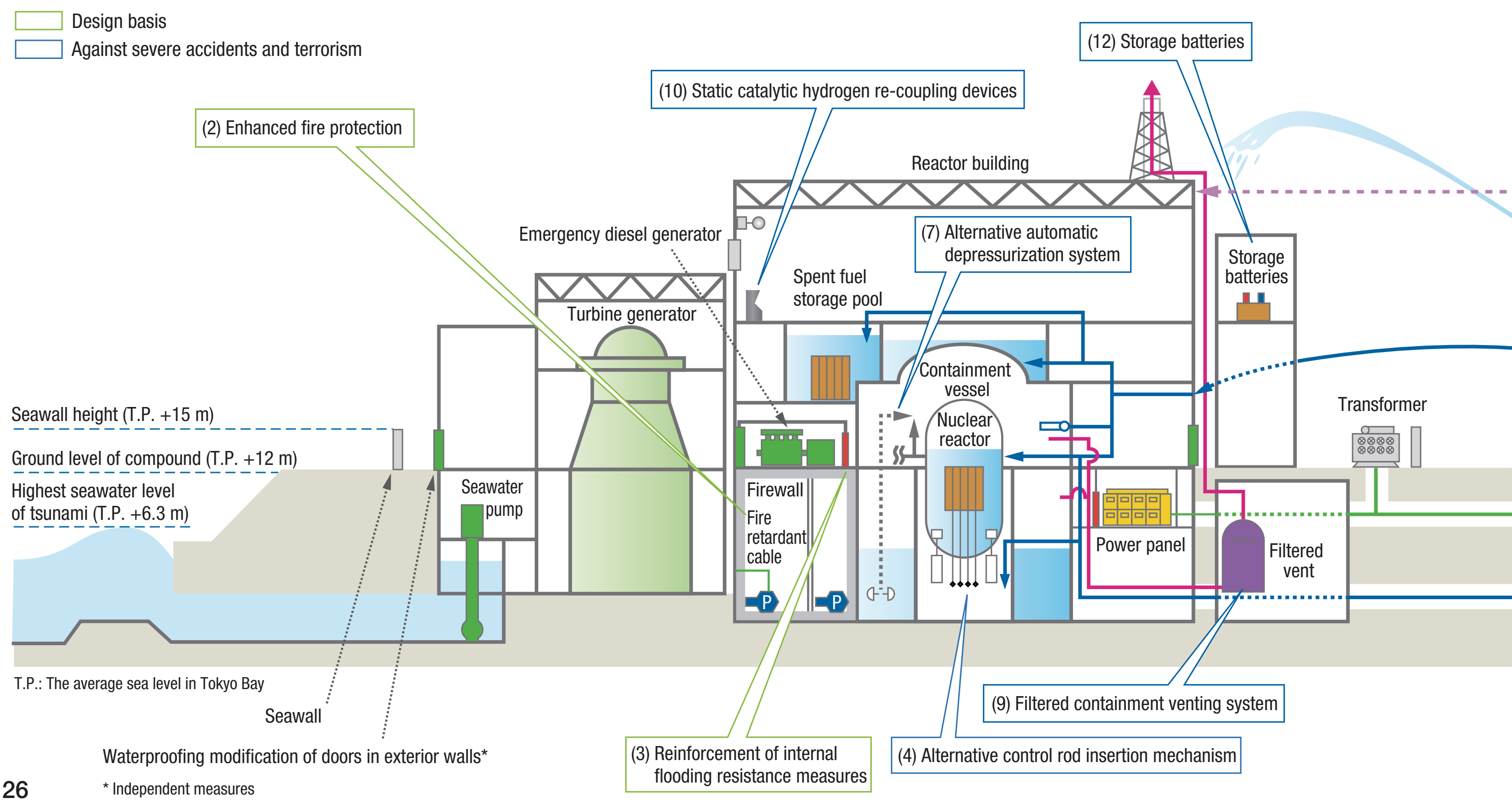
Value That the J-POWER Group Provides

- Contributing to the stable supply of energy with baseload power sources
- Advance the nuclear fuel cycle and contribute to raising Japan's energy self-sufficiency rate by using MOX fuel
- Contributing to reducing CO_2 emissions by using CO_2-free power sources

Overview of the Ohma Nuclear Power Plant Construction Plans

Overview of the Ohma Nuclear Power Plant Plans	
Location	Ohma-machi, Shimokita-gun, Aomori Prefecture
Capacity	1,383 MW
Type of nuclear reactor	Advanced boiling water reactor (ABWR)
Fuel	Enriched uranium and uranium-plutonium mixed oxide (MOX)
Start of construction	May 2008
Start of operations	To be determined

Image of Measures to Reinforce Safety at Ohma Nuclear Power Plant



Measures to Design Basis Accidents

To confirm compliance with the new safety standards, in December 2014 J-POWER submitted an application for permission for alteration of the reactor installment license and an application for construction plan approval to the Nuclear Regulation 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.

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/s^2 (previously 450 cm/s^2). Earthquake-proof designs for buildings 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 station 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, tornadoes, 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 and Terrorism

To prevent damage to the nuclear reactor and containment vessel from severe accidents, 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 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 generators and gas turbine generators 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.

Ensuring 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 radio-activity 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.