

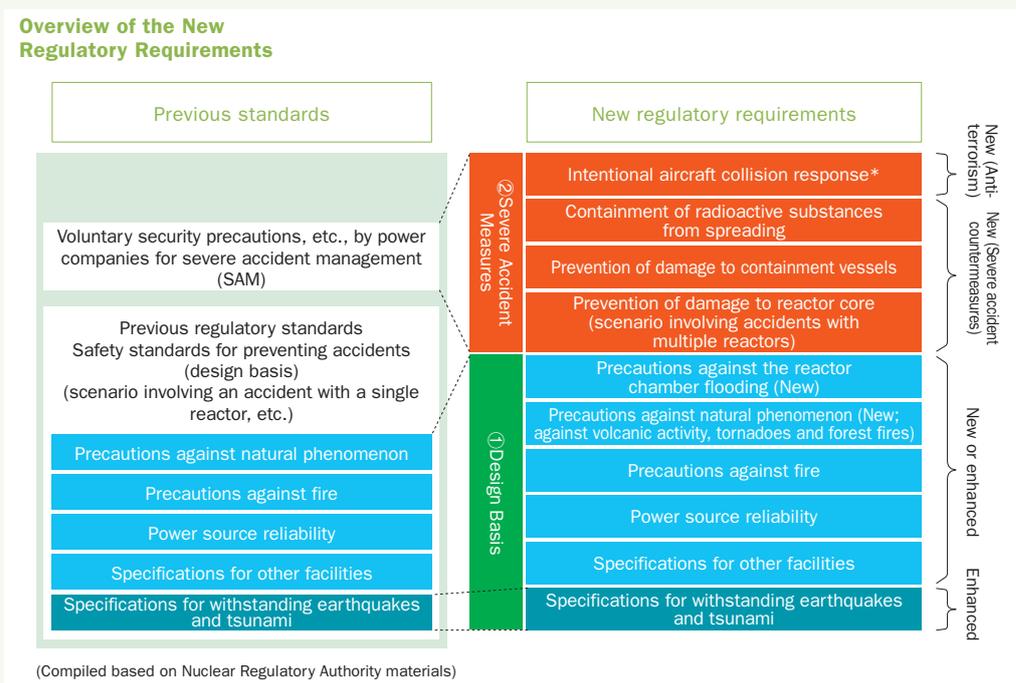
Initiatives for Improving the Safety and Security of Nuclear Power

Kyushu Electric Power is enthusiastically adopting the new standards prescribed by Japan's Nuclear Regulation Authority, while at the same time going beyond regulatory demands to achieve the world's highest safety standards. We are both voluntarily and continually promoting initiatives for improving the safety and security of nuclear power.

■ Overview of the New Regulatory Requirements

New regulatory requirements concerning nuclear power generation facilities were formulated for enactment on July 8, 2013 as a result of the lessons Japan learned from the accidents at the Fukushima Daiichi Nuclear Power Station.

The new regulatory requirements consist of ① **Design Basis** stipulating design criteria to be used for preventing accidents, carried forward from previous legislation, and new ② **Severe Accident Measures** stipulating countermeasures to be used in the event of a severe accident.



■ Our Safety Precautions in View of the New Regulatory Requirements

In July 2013, Kyushu Electric Power applied for a compatibility check with the new regulatory requirements for its Sendai (Units 1 & 2) and Genkai (Units 3 & 4) nuclear power stations.

① Design Basis

- Confirmed there were no active fault lines within the power station grounds
- Confirmed safety functions can withstand an earthquake load triggered by the regulatory standard seismic movement*¹ of 540 gal*² for each power station.

*1 The most severe shock wave caused by an earthquake that could conceivably strike in the power station's vicinity

*2 A unit of acceleration used in describing the intensity of ground and structural swaying caused by an earthquake

- Confirmed safety functions can withstand a regulatory standard tsunami*³

*3 The tsunami with the largest impact that could conceivably hit against the power station

	Max tsunami height* ⁴	Station elevation
Sendai Units 1 & 2	Approx. 4 m above sea level	Approx. 13 m above sea level
Genkai Units 3 & 4	Approx. 3 m above sea level	Approx. 11 m above sea level

*4 Maximum water level near the water intake to Sendai Units 1 & 2 and in front of the water intake pit to Genkai Units 3 & 4 as a result of the tallest regulatory standard tsunami at high tide

Formulation of
Midterm
Management Policy

- Basic Stance
- Major Initiatives

Increasing of
Electricity Rates

- Background to the Increasing of Electricity Rates
- Overview of the Increase

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- Overview of the New Regulatory Requirements
- Our Safety Precautions in View of the New Requirements
- Enhanced Framework for Preventing Nuclear Disasters and the Performance of Drills

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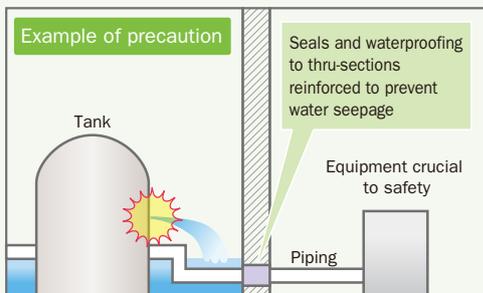
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- Confirmed that the safety of reactor facilities would be unaffected by natural phenomenon (tornadoes, volcanic activity, forest fires, etc.)
- Instituted measures to prevent water seepage from equipment damaged in the event of an earthquake
 - Instituted precautions preventing water and steam from seeping out of damaged tanks and pipes and flooding nuclear facilities crucial to safety



- Rigorous reinforcement of fire protection
- Instituted measures to improve power source reliability
 - Additional fuel tanks were installed to enable the operation of emergency diesel generators powering accident response facilities for seven continuous days



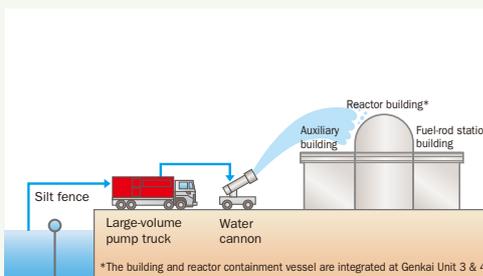
Construction of additional fuel tanks to emergency diesel generators

② Severe Accident Measures

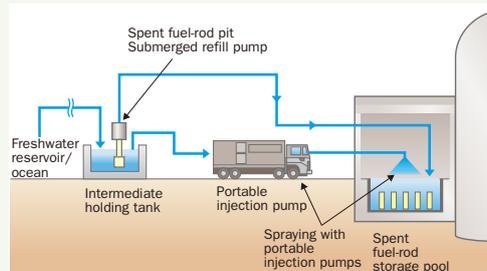
- Instituted measures to prevent damage to the reactor core
 - Instituted measures involving portable injection pumps and large-volume pump trucks for cooling the nuclear reactor inside and preventing damage to the reactor core (nuclear fuel rods)
- Instituted measures to prevent damage to the containment vessel
 - Instituted measures using portable injection pumps and other equipment to cool and decompress the container vessel, and to prevent hydrogen explosions, thereby preventing damage to the containment vessel encapsulating the radioactive substances.
- Instituted measures to contain the spread of radioactive substances
 - Instituted measures to contain the spread of radioactive substances into the atmosphere, for example, in the event that the containment vessel is damaged.



Large-volume pump truck



- Instituted measures to cool the spent fuel-rod storage pool
 - Instituted measures involving submerged pumps to cool the spent fuel-rod storage pool and prevent damage to the fuel rods



- Securing power source support functions
 - Diversification of power supply options



Mobile large-capacity generator (alternate current)



Direct current power source generators (portable substitute power source)

- Securing water supply support functions
 - Water supply required for putting out severe accidents, etc.

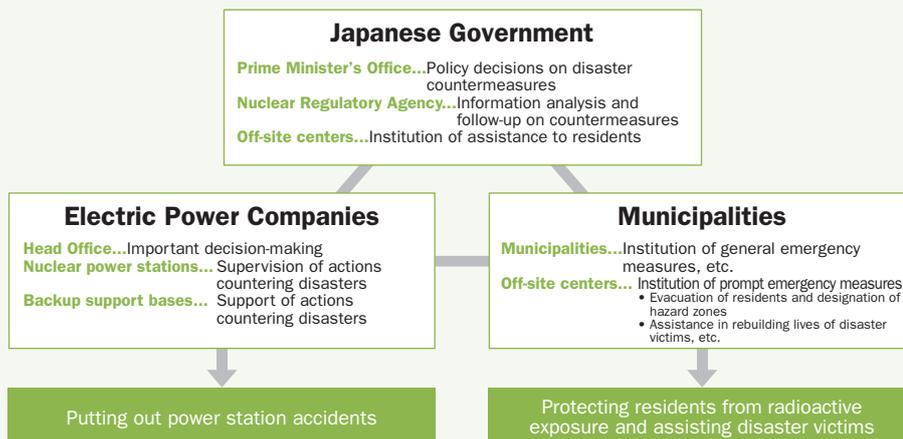
- Established emergency response posts for maintaining functions as an on-site command center
 - Established additional substitute emergency response posts
 - Established mission-critical anti-seismic building (fiscal 2015)

Enhanced Framework for Preventing Nuclear Disasters and the Performance of Drills

Enhanced framework for preventing nuclear disasters

Kyushu Electric Power revamped its plan for disaster prevention as a nuclear power facilities operator in March 2013 to enhance its disaster prevention framework in line with the revised Act on Special Measures Concerning Measures for Preventing Nuclear Disasters.

Roles Under the Framework for Preventing Nuclear Disasters



Main Enhancements to the Plan for Disaster Prevention as a Nuclear Power Facilities Operator

- Built a framework for collaborating with the government's disaster countermeasures headquarters and the relevant municipalities, having established emergency response posts within nuclear power stations and a nuclear incident quick response center within the Head Office
- Enhanced capabilities for responding to accidents, having established backup support bases
- Performed disaster drills in preparedness of severe accidents

Ongoing performance of drills

Our nuclear power stations perform operational procedure and maintenance and repair drills on an ongoing basis to ensure safe operation of their facilities. Since the accidents at the Fukushima Daiichi Nuclear Power Station, those drills have incorporated multiple disaster scenarios in an effort to further enhance our response capabilities.



Drill to supply coolant water with a temporary pump



Drill to restore an external power source



Drill conducted under total AC power blackout



Drill to remove debris

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